Bestwise – SFK Joint Venture

Contract No. DE/2018/17 Enhancement of Deodourisation System at Stonecutters Island Sewage Treatment Works

Monthly Environmental Monitoring and Audit Report October 2019

(Version 1.0)

Certified By	(Environmental Team Leader)
REMARKS:	

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

Wellab accepts no responsibility for changes made to this report by third parties

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CE/Harbour Area Treatment Scheme Drainage Services Department Sewage Services Branch Harbour Area Treatment Scheme Division 5/F, Western Magistracy 2A Pokfulam Road, Hong Kong

Attn: Mr. K K Kam

22.01/L-1415

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Agreement No. CE 8/2009(EP) Harbour Area Treatment Scheme Stage 2A Independent Environmental Checker for Construction Phase - Investigation **Our Reference** EC/AFK/DC/rh/T261332/ Contract No. DE/2018/17 - Enhancement of Deodourisation System at Stonecutters Island Sewage Treatment Works 3/F International Trade Condition 4.4 – Monthly EM&A Report for October 2019 (no. 2) Version 1.0 348 Kwun Tong Road 14 November 2019 By Post T +852 2828 5757 F +852 2827 1823 Dear Sir, I refer to the captioned Monthly EM&A Report for October 2019 (version 1.0)

submitted by ET on 11 November 2019 via email. In accordance with Condition 4.4 of Environmental Permit No. EP-322/2008/G, I hereby verify the captioned Monthly EM&A Report.

Yours faithfully for MOTT MACDONALD HONG KONG LIMITED

fr Dr Anne F Kerr Independent Environmental Checker T +852 2828 5757 anne.kerr@mottmac.com

C.C. Ove Arup & Partners HK Limited Sun Fook Kong – Bestwise Joint Venture Wellab Limited

Mr. Jeremy Mark Sparrow Mr. Keith Ho Dr. Priscilla Choy

Fax: 2370 4377 By email By email

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ABBREVIATION AND ACRONYM

AL Levels	Action and Limit Levels
DSD	Drainage Services Department
E / ER	Engineer/Engineer's Representative
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EMIS	Environmental Mitigation Implementation Schedule
EP	Environmental Permit
EPD	Environmental Protection Department
ET	Environmental Team
HVS	High Volume Sampler
IEC	Independent Environmental Checker
RE	Resident Engineer
RH	Relative Humidity
QA/QC	Quality Assurance / Quality Control
SLM	Sound Level Meter
WMP	Waste Management Plan
SCISTW	Stonecutters Island Sewage Treatment Works
HATS Stage 2A	Harbour Area Treatment Scheme Stage 2A
BSJV	Bestwise - SFK Joint Venture

EXECUTIVE SUMMARY

Introduction

- 1. This is the 2nd Monthly Environmental Monitoring and Audit (EM&A) Report prepared by Wellab Limited for DSD Contract No. DE/2018/17 "Enhancement of Deodourisation System at SCISTW" (The Project) which documents the key information of EM&A and environmental monitoring works undertaken by other Contracts at the SCISTW under HATS Stage 2A with the same Environmental Permit (Permit No. EP-322/2008/G).
- 2. The site activities undertaken in the reporting month included:

<u>DOU5</u>

- Mobilized coring machine to core through the obstruction
- Completed coring works
- Mobilization of piling equipment

DOU4

- Predriling work completed on 30 Sep 2019 and demonization on 2 Oct 2019
- Mobilized excavator on 2 Oct 2019 to open up hard surface and carry out trial trench excavation
- Uncharted concrete surround exposed on 8 Oct 2019, two piles are obstructed by the concrete surround

Environmental Monitoring Works

- 3. The environmental monitoring works of the Project were conducted by the ET for Contract DC/2009/10, at the SCISTW under HATS 2A with the same Environmental Permit. The monitoring results were checked and reviewed and the site audits were conducted once per week. The implementation of the Environmental Mitigation Measures, Event Action Plans and Environmental Complaint Handling Procedures were also checked.
- 4. Summary of the non-compliance of the reporting month is tabulated in Table I.

Table I	Summary Table for	Non-compliance Recorded	in the Reporting Month
---------	-------------------	-------------------------	------------------------

Monitored By	Monitoring Station	Parameter	No. of Exceedance		No. of Exceedance Due to the Project		Action
			Action Level	Limit Level	Action Level	Limit Level	Taken
	AM6a	1-hr TSP	0	0	0	0	N/A
		24-hr TSP	0	0	0	0	N/A
	NM5	Noise	0	0	0	0	N/A
DC/2009/10	NM6	Noise	0	0	0	0	N/A
DC/2007/10	AM7	1-hr TSP	0	0	0	0	N/A
		24-hr TSP	0	0	0	0	N/A
	AM8	1-hr TSP	0	0	0	0	N/A
		24-hr TSP	0	0	0	0	N/A

1-hour TSP Monitoring

5. All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

6. All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise

7. All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Environmental Licenses and Permits

8. Licenses/Permits granted to the Project include the Environmental Permit (EP); Billing account for Disposal of Construction Waste, Registered as Chemical Waste Producer and Construction Noise Permits.

Environmental Mitigation Implementation Schedule

9. According to the EIA Report Section 3.74, 4.56 and 13.44, air quality, noise and landscape and visual would be the key environmental issues and mitigation measures shall be implemented during the construction phase. Details of the implementation of mitigation measures are provided in the **Appendix F.**

Key Information in the Reporting Month

10. Summary of key information in the reporting month is tabulated in **Table II**.

Event	Event Details		Action Taken	Status	Remark
Event	Number	Nature	ACTOR LAKER	Status	Kelliark
Complaint received	0		N/A	N/A	
Status of submissions under EP	1	Monthly EM&A Report for September 2019	Submitted on 16 October 2019	N/A	
Notifications of any summons & prosecutions received	0		N/A	N/A	

Table II Summary Table for Key Information in the Reporting Month

Summary of Complaints and Prosecutions

- 11. No environmental complaint and prosecution was received for the Project in the reporting month.
- 12. There were no environmental complaint and prosecution received since the commencement of the Project. The Complaint Log is presented in **Appendix G**.

Future Key Issues:

- 13. Major site activities for the coming two months include:
 - Construction of pre-bored H-piles at DOU5 PS
 - Installation of isolation devices at CEPT tanks
 - Trial trench excavation at DOU4 PS for diversion of water main
 - Site demonstration works at DOU4 PS
 - E&M works for relocation of existing facilities at DOU1 and DOU1R
 - Site preparation works for open day event in mid-November 2019
- 14. The environmental concerns in the coming months are mainly on chemicals and general refuse storage; dust generated from the excavated dusty materials; and wastewater generated from the construction works.

1. INTRODUCTION

Background

- 1.1 The Project 'Enhancement of Deodourisation System at SCISTW' under Contract No: DE/2018/17 mainly comprises the following major works:
 - Construction of foundation for enhanced deodourisation system;
 - Design, supply, installation, testing and commissioning of enhanced deodourisation systems and associated accessories;
 - Enhancement of isolation devices at chemically enhanced primary treatment (CEPT) tanks;
 - Modification of air ducts at CEPT tanks;
 - Enhancement of sealing performance of existing covers for CEPT tanks; and
 - Any associated works as necessary to complete the above items.
- 1.2 The general location plan of the Project is shown in **Figure 1**.
- 1.3 The Project is under Harbour Area Treatment Scheme (HATS) Stage 2A and is a designated project with Register No. : AEIAR-121/2008. The current works under the Project at SCISTW for HATS 2A are covered by the Environmental Permit (Permit No. EP-322/2008/G), which was issued on 9th May 2014 by the Environmental Protection Department (hereinafter called EPD) to the Drainage Services Department (hereinafter called the DSD) as the Permit Holder.
- 1.4 The environmental monitoring works in the Project were covered by the ET for the Contract: DC/2009/10.
- 1.5 Bestwise SFK Joint Venture (hereafter called the BSJV) was commissioned by the DSD to undertake the construction of the Contract No. DE/2018/17 "Enhancement of Deodourisation System at SCISTW". The date of commencement of construction of the Project is 9th July 2019.
- 1.6 Wellab Limited was commissioned by BSJV to undertake the Environmental Monitoring and Audit (EM&A) works for the project and was appointed as the Environmental Team (ET) of the Project under Condition 2.1 of the EP. The date of commencement of EM&A works is 2nd September 2019. The Project cover the environmental monitoring works at monitoring stations AM6a, AM7, AM8, NM5 and NM6.
- 1.7 This is the 2nd monthly EM&A report summarizing the EM&A works conducted for the Project in October 2019.

Project Organizations

1.8 The contacts of the Project are shown in **Table 1.1** and the organization chart of ET for Contract is shown in **Figure 2**.

Party	Role	Name	Position	Phone No.	
Ove Arup & Partners Hong Kong Ltd	Project Management's Representative	Mr. Edmund Chow	Senior Resident Engineer	2370 4311	
	Coordinator	Mr. Kevin Cheung	Resident Engineer	3925 6506	
	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089	
Wellab		Mr. C.M. Li	Project Coordinator & Audit Team	2151 2073	
Mott MacDonald	Independent Environmental Checker	Dr. Anne Kerr	Independent Environmental Checker	2828 5757	
Bestwise – SFK Joint Venture		Mr. Ken Chan	Site Agent	2620 0070	
	Contractor	Mr. Leo Leung	Environmental Officer	2620 0070	

Table 1.1Key Project Contacts

Construction Programme

1.9 The site activities undertaken in the reporting month included:

DOU5

- Mobilized coring machine to core through the obstruction
- Completed coring works
- Mobilization of piling equipment

DOU4

- Predriling work completed on 30 Sep 2019 and demonization on 2 Oct 2019
- Mobilized excavator on 2 Oct 2019 to open up hard surface and carry out trial trench excavation
- Uncharted concrete surround exposed on 8 Oct 2019, two piles are obstructed by the concrete surround

Summary of EM&A Requirements

- 1.10 The EM&A programme requires construction phase monitoring for air quality and construction noise, landscape and visual and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:
 - All monitoring parameters;
 - Action and Limit levels for all environmental parameters;
 - Event Action Plans;
 - Environmental mitigation measures, as recommended in the project EIA study final report; and
 - Environmental requirements in contract documents.
- 1.11 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in **Section 4** of this report.
- 1.12 This report presents the monitoring results, observations, locations, equipment, period, for required monitoring parameter namely air quality, noise and audit works conducted for the Project in October 2019. For the methodology and QA/QC

procedures of the monitoring parameters, please refer to the monthly report for Contract DC/2009/10.

2. AIR QUALITY

Monitoring Requirements

2.1 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality. Appendix A shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Locations

2.2 Three designated monitoring stations, AM6a, AM7 and AM8 were selected for impact dust monitoring for the Project. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 1**.

Table 2.1Locations for Air Quality Monitoring

Monitoring Station	Monitored by	Location of Measurement	
AM6a		Works site boundary	
AM7	DC/2009/10	North West Kowloon Sewage Pumping Station	
AM8		Block A of Government Dockyard	

Monitoring Equipment

2.3 The details of the monitoring equipment and copies of the calibration certificates used during the reported month could be referred to Section 2.3 and Appendix B of the monthly report of Contract DC/2009/10.

Monitoring Parameters, Frequency and Duration

2.4 **Table 2.2** summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedule for the reporting period could be found in Appendix C in the monthly report for the Contract DC/2009/10.

Table 2.2	Impact Dust Monitoring Parameters, Frequency and Duration
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Monitoring Station	Parameter	Period	Frequency
All monitoring locations	1-hour TSP	0700-1900 hrs	3 times/ every 6 days
	24-hour TSP	0000-2400 hrs	once in every 6 days

Monitoring Methodology and QA/QC Procedure

2.5 The monitoring methodology and QA/QC procedures are presented in Section 2.5 – 2.15 of monthly report for Contract DC/2009/10.

Results and Observations

2.6 **Table 2.3** summarizes the monitoring results at AM6a, AM7 and AM8 in the reporting month.

Air Quality Monitoring Station	Average µg/m³	Range μg/m³	Action Level µg/m ³	Limit Level µg/m ³		
		1 hour TSP				
AM6a	54	23 - 88	346			
AM7	115.1	63.6 - 169.5	322	500		
AM8	93.7	50.1 - 153.7	307			
		24 hours TSP				
AM6a	52	37 - 73	196			
AM7	113	76 – 172	207	260		
AM8	59	33 - 81	158			

Table 2.3	Summary of 1-hour and 24-hour TSP Monitoring Result in the
	Reporting Month

- 2.7 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix B.**
- 2.8 All 24-hr TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix B.**
- 2.9 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results could be referred to Appendix D of monthly report of Contract DC/2009/10.
- 2.10 According to field observations during site inspection, the identified dust sources at the monitoring stations were mainly from loadings of material, vehicles movement, dust generated from the excavated dusty materials and construction works of other Contract and this Contract in the site.

3. NOISE

Monitoring Requirements

3.1 Two noise monitoring stations, namely NM5 and NM6 was designated in the EM&A Manual for impact monitoring. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

3.2 Noise monitoring was conducted at two designated monitoring stations as listed in **Table 3.1**, which are also depicted in **Figure 1**.

Table 3.1Location of Noise Monitoring Stations

Monitoring Station Monitored By		Location of Measurement	
NM5		Near FSD Diving Rescue and Training Centre	
NM6 DC/2009/10		Customs' Marine Base (Block H of Government Dockyard Rooftop)	

Monitoring Equipment

3.3 The details of the monitoring equipment and copies of the calibration certificates used in the impact noise monitoring programme could be referred to Section 3.4 and Appendix B of the monthly report of Contract DC/2009/10.

Monitoring Parameters, Frequency and Duration

- 3.4 **Table 3.2** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule could be found in Appendix C in the monthly report for the Contract DC/2009/10.
- 3.5 As advised by the Contractor, no construction work under Contract DE/2018/17 was conducted in the restricted hours during the reported month.

Monitoring Stations	Parameter	Period	Frequency
NM5	L _{eq} (30 min.) dB(A)	0700-1900 hrs. on weekdays	Once per week
NM6	L _{eq} (5 min.) dB(A)	During restricted hours	Monitoring to be conducted when construction works were to be carried out

Monitoring Methodology and QA/QC Procedures

3.6 The monitoring methodology and QA/QC procedure could be referring to Section 3.6 - 3.9 of the monthly report for Contract DC/2009/10.

Results and Observations

3.7 **Table 3.3** summarizes the monitoring results at NM5 and NM6 in the reporting month.

For t	the time period 0700-1900 hrs. on weekda	ıys
Noise Monitoring	Range, dB(A)	Limit Level
Station	$L_{eq}(30 \text{ min.})$	dB(A)
NM5	61.3 - 63.4	75.0
NM6	61.7 - 65.8	75.0

 Table 3.3
 Summary the Noise Monitoring Results in Reporting Month

- 3.8 The construction noise monitoring at the designated location was conducted by the ET of Contracts DC/2009/10 as scheduled in the reporting month. The monitoring results and graphical presentations could be referred to Appendix E of the monthly report for Contract DC/2009/10.
- 3.9 1900-2300 hours noise monitoring was not conducted in the reporting month as there were no construction works during the period of restricted hours.
- 3.10 No Action/Limit Level exceedance was recorded in the reporting month. Summary of exceedance is presented in **Appendix B**.
- 3.11 The major noise sources identified at the designated noise monitoring stations were vehicle movement and construction equipment, as well as construction activities from other and this Contract in Stonecutters Island STW.

4. ENVIRONMENTAL AUDIT

Site Audits

- 4.1 Site audits were conducted on a weekly basis to monitor the implementation of environmental management practices and mitigation measures at the site area by the Contractor.
- 4.2 Site inspections were undertaken to ensure and check that the implementation and maintenance of mitigation measures for Air Quality, Noise, Water Quality, Waste Management, Landscape and Visual are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.3 The summaries of site audits are attached in **Appendix C**.

Implementation Status of Environmental Mitigation Measures

- 4.4 Details of the implementation of mitigation measures are provided in the **Appendix F**.
- 4.5 During the weekly environmental site inspections in the reporting period, no nonconformance was identified. The observations of the site audit for the Projects are summarized in **Table 4.1**.

1 able 4.1	Observations of Site Audit			
Parameters	Ref. Number	Observations	Follow Up Action	
Water	191009-O01	Bunding should be provided for the earthworks in DOU2 to prevent direct runoff.	The drilling work was completed and no muddy water was observed in DOU2.	
Quality	191024-R01	Bunding was observed damaged. Contractor was reminded to	Follow up action will be reported	
	191031-R02	enhance bunding for preventing muddy water runoff at DOU5.	in the next reporting month.	
	190926-R01	The NRMM label has faded. Contractor was reminded to replace	The NRMM label was replaced.	
Air Quality	191003-R01	the valid NRMM label.		
Quality	191031-R01	NRMM label should be placed on the machinery.	Follow up action will be reported in the next reporting month.	
Waste/ Chemical Management	N/A	There was no observation in the reporting month.	N/A	
Landscape and Visual	N/A	There was no observation in the reporting month.	N/A	
Noise	N/A	There was no observation in the reporting month. N/A		
Permit/ Licenses	N/A	There was no observation in the reporting month.	N/A	

Table 4.1Observations of Site Audit

Review of Environmental Monitoring Procedures

4.6 The monitoring works conducted by Contract DC/2009/10's ET were reviewed at a regular basis to ensure the monitoring procedures were carried out properly.

Status of Environmental Licensing and Permitting

4.7 All permits/licenses obtained for the Contract DE/2018/17 are summarized in **Table 4.2**.

Table 4.2	Summary of Environmental Licence / Permit for DE/2018/17	

Reference	Valid Period		Details	Status		
Number	From	То		Status		
Water Dische	arge License					
N/A	N/A	N/A	N/A	N/A		
Registered C	hemical Wast	te Producer				
WPN5213- 269-B2565-01	N/A	N/A	The application was approved on 14-8-2019.	Valid		
Billing Accou	unt for Dispo	sal of Const	ruction Waste			
CSW03680	6/8/2019	N/A	The application was approved on 6-8-2019.	Valid		
Notification of	of Works Und	ler APCO	-			
447348	N/A	N/A	Notice form received by EPD on 17-7-2019.	N/A		
Construction	Construction Noise Permit					
GW- RW0478-19	04/10/2019	26/03/2020	The application was approved on 30-9-2019.	Valid		

Status of Waste Management

4.8 The amount of wastes generated by the activities of the Project in the reporting month is shown in **Appendix D**.

Implementation Status of Event Action Plans

4.9 The Event Action Plans for air quality and noise are presented in **Appendix E.**

<u>1-hr TSP</u>

4.10 No Action/Limit Level exceedance was recorded.

<u>24-hr TSP</u>

4.11 No Action/Limit Level exceedance was recorded.

Construction Noise

4.12 No Action/Limit Level exceedance was recorded.

Landscape and Visual

4.13 No major deficiency was recorded.

Summary of Complaints and Prosecutions

- 4.14 No environmental complaint and prosecution was received for the Project in the reporting month.
- 4.15 There were no environmental complaint and prosecution received since the commencement of the Project. The Complaint Log is presented in **Appendix G**.

5. FUTURE KEY ISSUES

Key Issues for the Coming Month

- 5.1 Key environmental issues in the coming month include:
 - Storage of chemicals/fuel and chemical waste/waste oil on-site;
 - Leakage of oil from equipment;
 - Dust generation should be mitigated by adequate water spraying, especially in dry days;
 - Stockpile should be properly covered by tarpaulin or impervious materials to mitigate dust generation;
 - Noise from operation of equipment and machinery on-site;
 - Silty surface runoff generated from the site area; and
 - Silt and dust getting into the public area by the leaving site vehicles at the site exits without adequate wheel washing facilities.

Monitoring Schedule for the Next Month

5.2 The tentative environmental monitoring schedule over the next month could be found in the Appendix C of the monthly report of Contract DC/2009/10.

Construction Program for the Next Month

5.3 The tentative construction program is provided in **Appendix H**.

6. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

6.1 Environmental monitoring and audit works were performed in the reporting month and all monitoring results were checked and reviewed.

1-hour TSP Monitoring

6.2 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

6.3 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise Monitoring

6.4 All Construction Noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Environmental Audit

6.5 Environmental site audits were conducted as weekly basis in the reporting month. No non-compliance was recorded.

Complaint and Prosecution

6.6 No environmental complaint and prosecution was received in the reporting month.

Recommendations for next reporting month

6.7 The following recommendations were made for the next report month:

Air Quality

- To provide adequate water spray on site;
- To mitigate dust generation by covering stockpile with tarpaulin;
- To regularly maintain the machinery and vehicles on site; and
- To follow up any exceedance caused by the construction works.
- Non-Road Mobile Machinery (NRMM) labels must be demonstrated on the registered equipment for inspection.

Noise

- To inspect the noise sources inside the site;
- To follow up any exceedance caused by the construction works;
- To space out noisy equipment and position the equipment as far away as possible from sensitive receivers;
- To provide temporary noise barriers for operations of noisy equipment near the noise sensitive receivers in an appropriate location;
- To provide adequate lubricant on mechanical equipments to reduce frictional noise; and

• To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance.

Water Quality

- To identify any discharge of wastewater from the construction site;
- To provide adequate temporary drainage system with adequate capacity;
- To provide adequate wastewater treatment facilities to treat the wastewater generated during construction works and heavy rain;
- To properly cover the stockpile to prevent the generation of surface runoff; and
- To avoid water accumulation on site and carry out larviciding against mosquito breeding for stagnant water when mosquito larvae are observed.

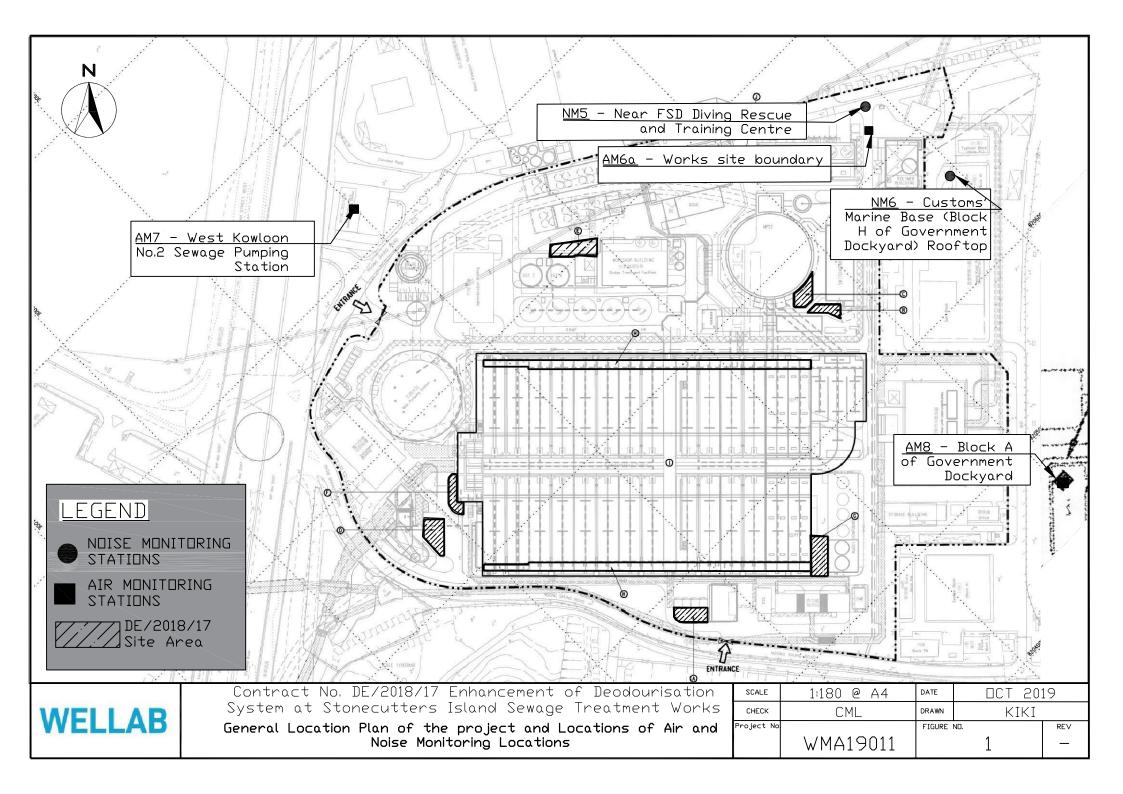
Waste/Chemical Management

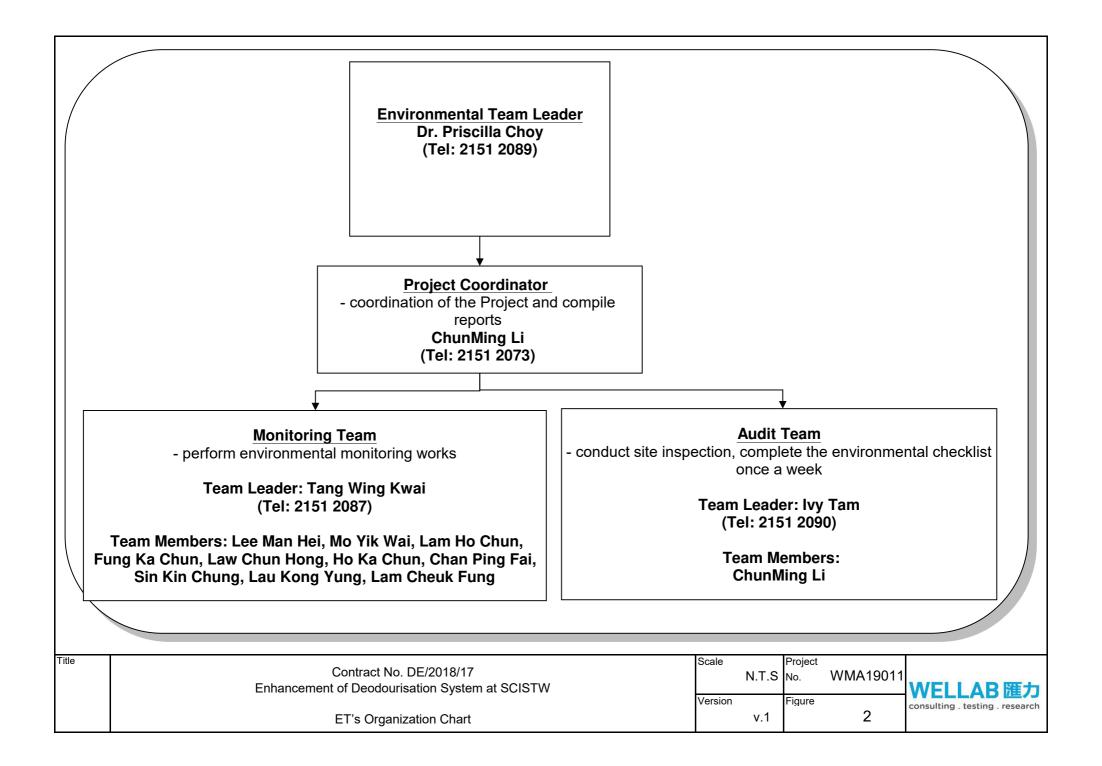
- To provide proper rubbish bins / skips for waste collection;
- To check for any accumulation of wasted materials or rubbish on site;
- To provide adequate chemical waste storage area on site;
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment; and
- To avoid improper handling or storage of oil drum and cement on site.

Landscape and Visual

- To erect and maintain the protection fence around the retained trees; and
- To avoid any construction materials being placed inside the tree protection zone.

FIGURES





APPENDIX A ACTION AND LIMIT LEVELS FOR AIR QUALITY AND NOISE QUALITY

Appendix A Action and Limit Levels

Table A-1 Action and Limit Levels for 1-Hour TSP and 24-Hour TSP

Manitaring Stations	Action Level (µg/m ³)		Limit Level (µg/m ³)	
Monitoring Stations	1-hour	24-hour	1-hour	24-hour
АМба	346	196	500	260
AM7	322	207	500	260
AM8	307	158	500	260

Table A-2 Action and Limit Level for Construction Noise

Monitoring Stations	Time Period	Action Level	Limit Level in dB(A)
	0700-1900 hours on normal weekdays	When one documented complaint is received	75
NM5 NM6	Evening Time of normal weekdays and General Holidays: All days during the evening (1900 to	N/A	70(1)
	2300 hours), and general holidays (including Sundays) during the day- time and evening (0700 to 2300 hours)		

Notes: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

APPENDIX B SUMMARY OF EXCEEDANCE

APPENDIX B – SUMMARY OF EXCEEDANCE

Reporting Month: October 2019

- a) Exceedance Report for 1-hr TSP (NIL)
- b) Exceedance Report for 24-hr TSP (NIL)
- c) Exceedance Report for Construction Noise (NIL)

APPENDIX C SITE AUDIT SUMMARY

Checklist Reference Number	191003	
Date	3 October 2019 (Thursday)	
Time	11:00-11:45	

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	 Part B – Landscape and Visual No environmental deficiency was identified during the site inspection. 	
	Part C - Air Quality	
191003-R01	• The NRMM label has faded. Contractor was reminded to replace the valid NRMM label.	C 19
	Part D – Noise	
	• No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licence	
	• No environmental deficiency was identified during the site inspection.	
	Others	
	 No environmental deficiency was identified during the site inspection. 	
	Remark:	
	Follow-up on previous audit session:	
	Refer to the previous audit session (Ref No. 190926), 190926-R01 is remarks as 191003-R01.	

	Name	Signature	Date
Recorded by	ChunMing Li	la	3 October 2019
Checked by	Dr. Priscilla Choy	N-T	3 October 2019

Checklist Reference Number	191009
Date	9 October 2019 (Wednesday)
Time	14:00-15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
191009-001	• Bunding should be provided for earthworks in DOU2 to prevent direct runoff.	A 2
	Part B – Landscape and Visual	
	• No environmental deficiency was identified during the site inspection.	
	Part C - Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	Part D – Noise	
	• No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licence	
	• No environmental deficiency was identified during the site inspection.	
	Others	
	• No environmental deficiency was identified during the site inspection.	
	Remark:	
	• Follow-up on previous audit session:	
	On previous audit session (Ref No. 191003), the environmental deficiency was improved by the Contractor.	

	Name	Signature	Date
Recorded by	ChunMing Li		11 October 2019
Checked by	Dr. Priscilla Choy	NIF	11 October 2019

Checklist Reference Number	191017	
Date	17 October 2019 (Thursday)	
Time	10:45-11:30	

Ref. No.	Non-Compliance	Related Item No.
	None identified	

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	 <i>Part B – Landscape and Visual</i> No environmental deficiency was identified during the site inspection. 	
	Part C - Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	Part D – Noise	
	• No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licence	
	• No environmental deficiency was identified during the site inspection.	
	Others	
	• No environmental deficiency was identified during the site inspection.	
	Remark:	
	• Follow-up on previous audit session:	
	On previous audit session (Ref No. 191009), the environmental deficiency was improved by the Contractor.	

	Date
Li .	17 October 2019
	17 October 2019
	Choy N7-

Checklist Reference Number	191024
Date	24 October 2019 (Thursday)
Time	11:00 - 11:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
191024-R01	• Bunding was observed damaged. Contractor was reminded to enhance bunding for preventing muddy water runoff at DOU 5.	A 2
	 <i>Part B – Landscape and Visual</i> No environmental deficiency was identified during the site inspection. 	
	Part C - Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	Part D – Noise	
	• No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management	
t	• No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licence	
	• No environmental deficiency was identified during the site inspection.	
	Others	
	• No environmental deficiency was identified during the site inspection.	
	Remark:	
	• Follow-up on previous audit session:	
	On previous audit session (Ref No. 191017), no environmental deficiency was observed during the site inspection.	

	Name	Signature	Date
Recorded by	Kenneth Leung	Leany	24 October 2019
Checked by	Dr. Priscilla Choy	NR	24 October 2019
		• • • •	

Checklist Reference Number	191031	
Date	31 October 2019 (Thursday)	
Time	10:30 - 11:00	

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
191031-R02	• Contractor was reminded to enhance bunding to prevent direct muddy water runoff at DOU5.	A 2
	 <i>Part B – Landscape and Visual</i> No environmental deficiency was identified during the site inspection. 	
	Part C - Air Quality	
191031-R01	• NRMM label should be placed on the machinery.	C 19
	Part D – Noise	
	• No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licence	
	• No environmental deficiency was identified during the site inspection.	
	Others	
	• No environmental deficiency was identified during the site inspection.	
	Remark:	
	• Follow-up on previous audit session:	
	On previous audit session (Ref No. 191024), item 191024-R01 was remarked as 191031-R02. Follow-up action is needed to be reviewed.	

	Name	Signature	Date
Recorded by	Kenneth Leung	ferry	31 October 2019
Checked by	Dr. Priscilla Choy	hŦ	1 November 2019

APPENDIX D SUMMARY OF AMOUNT OF WASTE GENERATED Name of Department: DSD Contract No. : DE/2018/17 Monthly Summary Waste Flow Table for 2019 (year) Actual Quantities of inert C&D Materials Generated Monthly Actual Quantities of C&D Materials Generated Monthly Disposed as Total Quantity Hard Rock and Large Reused in the Reused in Imported Metals Paper/ Plastics Chemical Other, e.g. Month cardboard Broken Concrete other Projects Generated Contract Public Fill Fill (see Note 3) Waste general refuse $(In '000m^3)$ $(In '000m^3)$ $(In '000m^3)$ $(In '000m^3)$ $(In '000m^3)$ $(In '000m^3)$ (In '000kg) (In '000kg) (In '000kg) (In '000kg) $(In '000m^3)$ Jan Feb Mar N/A Apr May June 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 Sub-total 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 July 0.052 0.052 0.000 0.000 0.052 0.000 0.000 0.000 0.000 0.000 0.000 Aug 0.048 0.048 0.048 0.000 0.000 Sep 0.000 0.000 0.000 4.120 0.000 0.000 0.087 0.087 0.000 0.000 0.087 0.000 5.120 0.000 0.000 0.000 0.000 Oct Nov Dec 0.188 0.188 0.000 0.188 0.000 9.240 0.000 0.000 0.000 0.000 0.000 Total Total since commence 0.188 0.188 0.000 0.000 0.188 0.000 9.240 0.000 0.000 0.000 0.000 ment of project

Notes: (1) The performance targets are given in PS Clause 25.37(14).

(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material

(4) The conversion factor for tonne to m^3 for inert C&D materials is 1.9 tonne/ m^3 .

(5) The conversion factor for tonne to m^3 for general refuse is 1.8 tonne/ m^3 .

APPENDIX E EVENT ACTION PLANS

APPENDIX E – Event / Action Plans

Table E-1 Event / Action Plan For Air Quality

	ACTION			
EVENT	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for	1. Identify source, investigate the	1. Check monitoring data	1. Notify Contractor.	1. Rectify any unacceptable
one sample	causes of exceedance and propose	submitted by ET;		practice;
	remedial measures;	2. Check Contractor's working		2. Amend working methods if
	2. Inform IEC and ER;	method.		appropriate.
	3. Repeat measurement to confirm			
	finding;			
	4. Increase monitoring frequency to			
	daily.			
2. Exceedance for	1. Identify source;	1. Check monitoring data	1. Confirm receipt of notification	1. Submit proposals for
two or more	2. Inform IEC and ER;	submitted by ET;	of failurein writing;	remedial to ER within 3
consecutive	3. Advise the ER on the	2. Check Contractor's working	2. Notify Contractor;	working days of notification;
samples	effectiveness of the proposed	method;	3. Ensure remedial measures	2. Implement the agreed
	remedial measures;	3. Discuss with ET and Contractor	properly implemented	proposals;
	4. Repeat measurements to confirm	on possible remedial measures;		3. Amend proposal if
	findings;	4. Advise the ET on the		appropriate
	5. Increase monitoring frequency to	effectiveness of the		
	daily;	proposed remedial measures;		
	6. Discuss with IEC and Contractor	5. Supervise Implementation of		
	on remedial	remedial measures.		
	actions required;			
	7. If exceedance continues, arrange			
	meeting with IEC and ER;			
	8. If exceedance stops, cease			
	additional monitoring			

	ACTION				
EVENT	ET	IEC	ER	CONTRACTOR	
LIMIT LEVEL	·		·	•	
1. Exceedance for	1. Identify source, investigate the	1. Check monitoring data	1. Confirm receipt of	1. Take immediate action to	
one sample	causes of exceedance and propose	submitted by ET;	notification of failure in	avoid further exceedance;	
	remedial measures;	2. Check Contractor's working	writing;	2. Submit proposals for	
	2. Inform ER, Contractor and EPD;	method;	2. Notify Contractor;	remedial actions to IEC	
	3. Repeat measurement to confirm	3. Discuss with ET and Contractor	3. Ensure remedial measures	within 3 working days of	
	finding;	on possible remedial measures;	properly implemented	notification;	
	4. Increase monitoring frequency to	4. Advise the ER on the		3. Implement the agreed	
	daily;	effectiveness of the proposed		proposals;	
	5. Assess effectiveness of	remedial measures;		4. Amend proposal if	
	Contractor's remedial actions and	5. Supervise implementation of		appropriate	
	keep IEC, EPD and ER informed of	remedial measures			
	the results.				
2. Exceedance for	1. Notify IEC, ER, Contractor and	1. Check monitoring data	1. Confirm receipt of	1. Take immediate action to	
two or more	EPD;	submitted by ET;	notification of failure in	avoid further exceedance;	
consecutive	2. Identify source;	2. Check Contractor's working	writing;	2. Submit proposals for	
samples	3. Repeat measurement to confirm	method;	2. Notify Contractor;	remedial actions	
	findings;	3. Discuss amongst ER, ET, and	3. In consolidation with the	to IEC within 3 working days	
	4. Increase monitoring frequency to	Contractor on the potential	IEC, agree with the Contractor	of notification;	
	daily;	remedial actions;	on the remedial measures to	3. Implement the agreed	
	5. Carry out analysis of Contractor's	4. Review Contractor's remedial	be implemented;	proposals;	
	working procedures to determine	actions whenever necessary to	4. Ensure remedial measures	4. Resubmit proposals if	
	possible mitigation to be	assure their effectiveness and	properly implemented;	problem still not under	

ACTION					
EVENT	ET	IEC	ER	CONTRACTOR	
	implemented;	advise the ER accordingly;	5. If exceedance continues,	control;	
	6. Arrange meeting with IEC and	5. Supervise the implementation of	consider what portion of the	5. Stop the relevant portion of	
	ER to discuss the remedial actions	remedial measures.	work is responsible and	works as determined by the	
	to be taken;		instruct the Contractor to stop	ER until the exceedance is	
	7. Assess effectiveness of		that portion of work until the	abated	
	Contractor's remedial actions and		exceedance is abated.		
	keep IEC, EPD and ER informed of				
	the results;				
	8. If exceedance stops, cease				
	additional monitoring				

Table E-2 Event / Action Plan For Construction Noise

	ACTION			
EVENT	ET	IEC	ER	CONTRACTOR
Action Level	1. Notify ER, IEC and Contractor;	1. Review the investigation	1. Confirm receipt of	1. Submit noise mitigation
being	2. Carry out investigation;	results submitted by the ET;	notification of failure in writing;	proposals to IEC and ER;
exceeded	3. Report the results of investigation to	2. Review the proposed	2. Notify Contractor;	2. Implement noise mitigation
encecuca	the IEC, ER and Contractor;	remedial measures by the	3. In consolidation with the IEC,	proposals
	4. Discuss with the IEC and	Contractor and advise the ER	agree with the Contractor on the	
	Contractor on remedial measures	accordingly;	remedial measures to be	
	required;	3. Advise the ER on the	implemented;	
	5. Increase monitoring frequency to	effectiveness of the proposed	4. Supervise the implementation of	
	check mitigation effectiveness	remedial measures	remedial measures	
Limit Level	1. Inform IEC, ER, Contractor and	1. Discuss amongst ER, ET,	1. Confirm receipt of	1. Take immediate action to
being	EPD;	and	notification of failure in writing;	avoid further exceedance;
exceeded	2. Repeat measurements to confirm	Contractor on the potential	2. Notify Contractor;	2. Submit proposals for
executed	findings;	remedial actions;	3. In consolidation with the	remedial actions to IEC
	3. Increase monitoring frequency;	2. Review Contractor's	IEC, agree with the Contractor on	and ER within 3 working
	4. Identify source and investigate the	remedial	the remedial measures to be	days of notification;
	cause of exceedance;	actions whenever necessary	implemented;	3. Implement the agreed
	5. Carry out analysis of Contractor's	to assure their effectiveness	4. Supervise the implementation of	proposals;
	working procedures;	and advise the ER accordingly.	remedial measures;	4. Submit further proposal if
	6. Discuss with the IEC, Contractor		5. If exceedance continues,	problem still not under
	and ER on remedial measures		consider stopping the Contractor to	control;
	required;		continue working on that portion of	5. Stop the relevant portion
	7. Assess effectiveness of Contractor's		work which causes the exceedance	of works as instructed by
	remedial actions and keep IEC, EPD		until the exceedance is abated	the ER until the exceedance is
	and ER informed of the results;			abated
	8. If exceedance stops, cease			
	additional monitoring			

APPENDIX F ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

APPENDIX F IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			
Α	Air Quality		
3.74	Skip hoist for material transport should be totally enclosed by impervious sheeting.	All construction sites	٨
	Vehicle washing facilities should be provided at every vehicle exit point.	٨	
	The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcore.		^
	Where a site boundary adjoins a road, streets or other areas accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit.		N/A
	Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.		٨
	Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.		^
	Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.		٨
	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.		٨
	Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.		٨
	Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides.		٨
	Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.		٨
3.74	Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.	All construction sites	Λ

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			
В	Airborne Noise		
4.56-	Use of quiet PME, movable barriers and acoustic mats.	All construction sites	٨
4.61			
4.67	Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program.		^
	Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program.		^
	Mobile plant, if any, shall be sited as far away from NSRs as possible.		٨
	Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum.		^
4.67	Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.		^
	Material stockpiles and other structures shall be effectively utilized, wherever practicable,		٨
	in screening noise from on-site construction activities. Water Quality		
C			
6.349 to 6.375	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	All construction sites	#
6.376 6.377	Effluent Discharge There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD. Minimum distances of 100 m should be maintained between the discharge points of construction site effluent and the existing saltwater intakes. Accidental Spillage of Chemicals		Λ
	Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General)		

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			
	Regulation should be observed and complied with for control of chemical wastes.		
6.378	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.		٨
6.379	 Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area. 		Λ
6.380	Construction Works in Close Proximity of Storm Drains or Seafront:	All construction sites	٨
	 To minimize the potential water quality impacts from the construction works located at or near any watercourse, the practices outlined below should be adopted where applicable. The use of less or smaller construction plants may be specified to reduce the disturbance to the storm water courses or marine environment. Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works. Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers. Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable. Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert or sea. 		

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			

D	Waste Management		
9.107	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimize wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All construction sites	٨
9.109	 All waste materials should be segregated into categories covering: excavated materials suitable for reuse on-site; excavated materials suitable for public filling facilities; remaining C&D waste for landfill; chemical waste; and general refuse for landfill. 	All construction sites	۸
9.113	Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals.		۸
	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.		۸
	Encourage collection of aluminum cans, PET bottles and paper by providing separate labeled bins to enable these wastes to be segregated from other general refuse generated by the work force.		٨
	Any unused chemicals or those with remaining functional capacity shall be recycled.		٨
	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.		^
9.115	Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.		۸
	Training of site personnel in proper waste management and chemical waste handling procedures.		^
9.115	Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials.		۸
	Provision of sufficient waste disposal points and regular collection of waste.		۸
	Regular cleaning and maintenance programme for drainage systems, sumps and oil		٨

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			
	1		
	interceptors.		
9.125	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage".	All construction sites	٨
9.131	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.		٨
9.133	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.		٨
9.135	The recyclable component of the municipal waste generated by the workforce, such as aluminum cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.		Λ
9.137	If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.		Λ
9.142	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.		N/A

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			

Е	Terrestrial Ecology		
10.94	To implement effective noise mitigation measures as recommended in Section 4 of EIA.	All construction sites	N/A
10.95	Dust control practices such as regular watering, complete coverage of any aggregate or dusty material storage piles, and re-schedule of dusty activities during high-wind conditions as well as other measures recommended in Section 3 of EIA, should be implemented.	-	۸
10.96	Fences/hoardings should be erected and installed along the boundary of the works areas.		٨
10.97	Standard good site practices as suggested in Section 10 of EIA should be implemented.		N/A
10.98	Provision of proper drainage system and runoff control measures such as use of sand/silt traps, oil/grease separators, sedimentation tanks, etc.		٨
F	Landscape and Visual		
Table 13.7	^{le} Topsoil, where identified, should be stripped and stored for re-use in the construction of All con the soft landscape works, where practical.	All construction sites	^
	Existing trees to be retained on site should be carefully protected during construction.		٨
	Trees unavoidably affected by the works should be transplanted where practical.		٨
	Compensatory tree planting should be provided to compensate for felled trees.	-	٨
	Control of night-time lighting.	-	٨
Table 13.7	Erection of decorative screen hoarding compatible with the surrounding setting.	All construction sites	N/A
	Marine Ecology		
G			
11.137	To minimize the potential indirect impacts on water quality from construction site runoff and various construction activities, the practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted.		^
Н	Hazard to Life		
14A.201	Limiting use of cranes in terms of locations, lifting height, swing angle and setting up safety zone.	Exact location will be determined on construction site by the engineer	٨

Remarks:	 Compliance of mitigation measure;
	N/A Not Applicable;
	* Recommendation was made during site audit but
	improved/rectified by the contractor.
	# Recommendation was made during site audit and to be
	improved / rectified by the contractor.
	X Non-compliance of mitigation measure;
	Non-compliance but rectified by the contractor;

APPENDIX G COMPLAINT LOG

APPENDIX G – COMPLAINT LOG

Reporting Month: October 2019

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Remarks: No environmental complaint was received in the reporting month.

APPENDIX H CONSTRUCTION PROGRAMME

Contract Particulars Contract Particulars Contract Particulars UD0011 Signing 05 0 <	Activity ID	Activity Name	Activity % Complete	Total Float	Original Duration	Time risk allowance	Start	Finish	20)19 I		Q
Control Particulars Control Bit with Papel Or Bit with Papel Or Bit with Papel Or Bit with Papel Papel NOXED Bit with Papel Or Bit with Papel Or Bit with Papel Bit	Works Pro	gramme (First Programme)								-	=	G
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A5180 Procurement of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5 0% 0 48 0 07-Sep-19 24-Oct-19 A5190 FAT of Activated Carbon Filter System for DOU1 00% 0 6 0 07-Oct-19 12-Oct-19 12-Oct-19 A5200 Delivery of Activated Carbon Filter System for DOU1 to Site 0% 0 14 0 13-Oct-19 26-Oct-19 A5210 FAT of Activated Carbon Filter System for DOU2 0% 0 6 0 13-Oct-19 18-Oct-19 A5220 Delivery of Activated Carbon Filter System for DOU2 to Site 0% 0 14 0 19-Oct-19 18-Oct-19 A5230 FAT of Activated Carbon Filter System for DOU5 to Site 0% 0 14 0 19-Oct-19 24-Oct-19 A5240 Delivery of Activated Carbon Filter System for DOU5 to Site 0% 0 14 0 25-Oct-19 07-Nov-19 A5250 Procurement of FRPAir Ducts for Effluent Drop Structure 0% 0 45 0 02-Sep-19 16-Oct-19 A5260			0%	57	7	0	10-Sep-19	16-Sep-19				
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A5210 FAT of Activated Carbon Filter System for DOU2 000 000 6 0 13-Oct-19 18-Oct-19 A5220 Delivery of Activated Carbon Filter System for DOU2 to Site 00% 0 14 0 19-Oct-19 01-Nov-19 A5230 FAT of Activated Carbon Filter System for DOU5 to Site 00% 0 6 0 19-Oct-19 24-Oct-19 A5240 Delivery of Activated Carbon Filter System for DOU5 to Site 00% 0 14 0 25-Oct-19 07-Nov-19 A5250 Procurement of FRP Air Ducts for Effluent Drop Structure 0% 0 455 0 02-Sep-19 16-Oct-19 A5260 FAT of FRP Air Ducts for Effluent Drop Structure to Site 0% 0 7 0 17-Oct-19 23-Oct-19 A5270 Delivery of FRP Air Ducts for Effluent Drop Structure to Site 0% 0 7 0 17-Oct-19 23-Oct-19 A5280 Procurement of Isolation Devices for Effluent Drop Structure 0% 0 30 0 02-Sep-19 01-Oct-19		· · · ·					· ·		<u> </u>	11		ſŤ
A5220 Delivery of Activated Carbon Filter System for DOU2 to Site 0% 0 14 0 19-Oct-19 01-Nov-19 A5230 FAT of Activated Carbon Filter System for DOU5 0% 0% 0 6 0 19-Oct-19 24-Oct-19 A5240 Delivery of Activated Carbon Filter System for DOU5 to Site 0% 0 14 0 25-Oct-19 07-Nov-19 A5250 Procurement of FRP Air Ducts for Effluent Drop Structure 0% 0 45 0 02-Sep-19 16-Oct-19 A5260 FAT of FRP Air Ducts for Effluent Drop Structure to Site 0% 0 7 0 10-Oct-19 16-Oct-19 A5270 Delivery of FRP Air Ducts for Effluent Drop Structure to Site 0% 0 7 0 17-Oct-19 23-Oct-19 A5280 Procurement of Isolation Devices for Effluent Drop Structure 0% 0 30 0 02-Sep-19 01-Oct-19		· · ·	0%									
A5230 FAT of Activated Carbon Filter System for DOU5 000 000 6 0 19-Oct-19 24-Oct-19 A5240 Delivery of Activated Carbon Filter System for DOU5 to Site 00% 0 14 0 25-Oct-19 07-Nov-19 A5250 Procurement of FRP Air Ducts for Effluent Drop Structure 0% 0 45 0 02-Sep-19 16-Oct-19 A5260 FAT of FRP Air Ducts for Effluent Drop Structure 0% 0 7 0 17-Oct-19 23-Oct-19 A5270 Delivery of FRP Air Ducts for Effluent Drop Structure to Site 0% 0 7 0 17-Oct-19 23-Oct-19 A5280 Procurement of Isolation Devices for Effluent Drop Structure 0% 0 30 0 02-Sep-19 01-Oct-19												
A5240 Delivery of Activated Carbon Filter System for DOU5 to Site 0% 0 14 0 25-Oct-19 07-Nov-19 A5250 Procurement of FRP Air Ducts for Effluent Drop Structure 0% 0 45 0 02-Sep-19 16-Oct-19 A5260 FAT of FRP Air Ducts for Effluent Drop Structure 0% 0 7 0 10-Oct-19 16-Oct-19 A5270 Delivery of FRP Air Ducts for Effluent Drop Structure to Site 0% 0 7 0 17-Oct-19 23-Oct-19 A5280 Procurement of Isolation Devices for Effluent Drop Structure 0% 0 30 0 02-Sep-19 01-Oct-19												
A5250 Procurement of FRP Air Ducts for Effluent Drop Structure 0% 0 45 0 02-Sep-19 16-Oct-19 A5260 FAT of FRP Air Ducts for Effluent Drop Structure 0% 0 7 0 10-Oct-19 16-Oct-19 A5270 Delivery of FRP Air Ducts for Effluent Drop Structure to Site 0% 0 7 0 17-Oct-19 23-Oct-19 A5280 Procurement of Isolation Devices for Effluent Drop Structure 0% 0 30 0 02-Sep-19 01-Oct-19									 	-++		
A5260 FAT of FRP Air Ducts for Effluent Drop Structure 0% 0 7 0 10-Oct-19 16-Oct-19 A5270 Delivery of FRP Air Ducts for Effluent Drop Structure to Site 0% 0 7 0 17-Oct-19 23-Oct-19 A5280 Procurement of Isolation Devices for Effluent Drop Structure 0% 0 30 0 02-Sep-19 01-Oct-19												
A5280 Procurement of Isolation Devices for Effluent Drop Structure 0% 0 30 0 02-Sep-19 01-Oct-19												
Ab290 Delivery of Isolation Devices for Effluent Drop Structure to Site 0% 0 7 0 02-Oct-19 08-Oct-19									ļ			
	A5290	Derivery or isolation Devices for Effluent Drop Structure to Site	0%	0	7	U	02-Oct-19	U8-Uct-19		ш	- 1	<u>i li</u>

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Startin	ng date of Pro	ect																	V 03-IV	lay-21, 1	Contract	Particul	ars
Olditar																			Com	¦ pletion l	pate (66	5 days)	
														<u>.</u>	29-De	c-20, K	ey Date	\$;					
♦ Startin	ng date of Pro	ject													KDA-	Comp	etion of	all other	works	includin	ng DOUs	124	5 Polis
🕈 09-Jul	I-19, Access	Date of Part of t	he Site													Comp			WORKS			1, 2, 7,	
Part A	-L																						
		19, Preliminary			nents																		
		cation/ hotifica	tion of EI	D and LD																			
	Submission o Approva	of Safety Plan																					
	Submission o	WasteManag	ement Pla			· · · ·																	
		f Waste Manag			ental Manag	pem ent p	olan														ļ		
		Subcontractor M Subcontractor I																					
	- +	taffing Proposa	1 7																				
⁴►□ △	Approval of Si	affing Proposal																					
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Subr		Design of Act												-									
Swor		AIP Design of A			-1		DOU2	and DOL	12					<u> </u>									
	Approval of	AIP Design of A	ir Relief	Duct for Efflue	nt Drop Stri	ucture																	
Subr		Design of Isc																					
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Supr		P Design fo po															- - - -						
		AIP Design fo 6-Sep-19, E&N	Docian	hubmiccion (F																			
Subr	mission of DI	A Civil require	ment drav	wings and Ge	neral Arrang	gement o	of DOU1	I, DOU1	R, DOU2	2, DO'L	U4 and	DOU5											
	Review and	comment on L	DA of Civ	I requirement	drawings a	and Gene	eral Arra	angemen	nt of DOL	J1, DC	DU1R, I	90U2, L		1	5								
	. .	sion of DDAC			- I I									J5									
		n of DDA Civil i	1.1			ĩ					2, DOU	4 and D	005										
		ew and Comm									and DC	U5											
		submission of	- i	-	- i - i -				· · ·					[
		pproval of DD. m of DDA Desi	-					JU1, DO	U2 and I	DOU5	•												
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		ew and Comm						Drop Stru	ucture														
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		pproval of DD. m of DDA Desi												<u> </u>	ļ								
		ew and Comm								EPT Ta	anks												
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	Ģ	📕 Delivery o	fIsolation	Devices for	Effluent Dro	p Structi	ure to Si	te															
DOMAN	117									C		<u>(</u>	D.	ate		Revis	ion		Checke	d	۸	pproved	
DC/2018	/1/									She	eet 1 o	19-	Jul-19		Rev.	0			SHOULE			pp: 0veu	
ecutter Is	land Sewa	ge Treatmei	ıt Worl	ks								29-	Aug-19		Rev.	1							
gramme																							

Actual Work

Milestone

Summary

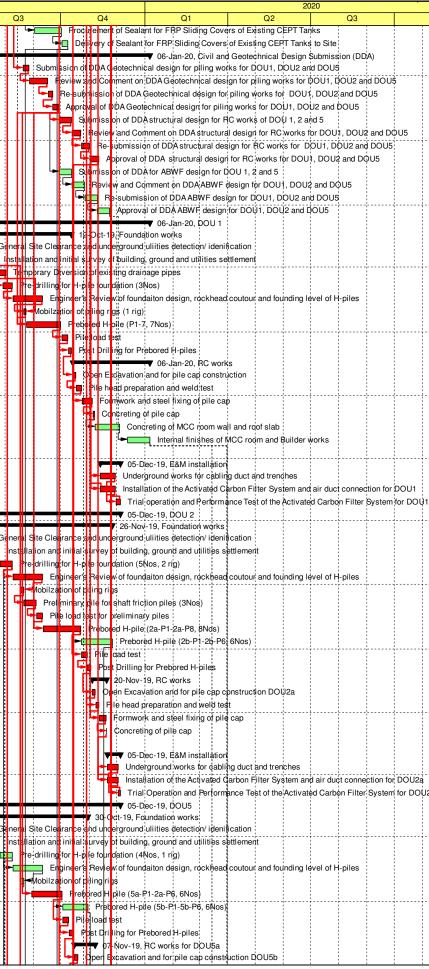
Remaining Work

Critical Remaining Work

Contract No. DC/2018/17

Enhancement of Deodourization System at Stonecutter Island Sewage Tr

D	Activity Name	Activity % To Complete	otal Float	Original Time risk Duration allowance	Start	Finish	201	9		Q3			Q4	1
\$5300	Procurement of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1	30 0	02-Sep-19	01-Oct-19		Π		· •			ureme	
\$5310	Delivery of Sealant for FRP Sliding Covers of Existing CEPT Tanks to Site	0%	1	7 0	02-Oct-19	08-Oct-19						🔲 De	ivery	of Se
	eotechnical Design Submission (DDA)						\ \	Ħ			Subm			
A5320	Submission of DDA Geotechnical design for piling works for DOU1, DOU2 and DOU5	0%	0	7 0	20-Aug-19	26-Aug-19		·				eview a		
15330	Review and Comment on DDA Geotechnical design for piling works for DOU1, DOU2 and DOU5	0%	0	21 0	27-Aug-19	16-Sep-19						6 U U		
\5340	Re-submission of DDA Geotechnical design for piling works for DOU1, DOU2 and DOU5	0%	0	5 0 7 0	17-Sep-19	21-Sep-19						Re-sub Appro		
\5350 \5400	Approval of DDA Geotechnical design for piling works for DOU1, DOU2 and DOU5	0%	0		22-Sep-19	28-Sep-19 12-Oct-19				int-i			ubmiss	
	Submission of DDA structural design for RC works of DOU 1, 2 and 5	0%	-	14 0 10 0	29-Sep-19						1 1		Revie	- i -
7500 7510	Review and Comment on DDA structural design for RC works for DOU1, DOU2 and DOU5	0%	0	10 0	13-Oct-19 23-Oct-19	22-Oct-19 01-Nov-19		·				E		ev al sub
	Re-submission of DDA structural design for RC works for DOU1, DOU2 and DOU5	0%											#1 1	Appr
7520 7840	Approval of DDA structural design for RC works for DOU1, DOU2 and DOU5 Submission of DDA for ABWF design for DOU 1, 2 and 5	0%	0 115	10 0 14 0	02-Nov-19	11-Nov-19 12-Oct-19							ut miss	
					29-Sep-19						1	· – · · ·	Revi	
7850	Review and Comment on DDA ABWF design for DOU1, DOU2 and DOU5	0%	115	14 0	13-Oct-19	26-Oct-19								- i -
7860	Re-submission of DDA ABWF design for DOU1, DOU2 and DOU5	0%	115	14 0	27-Oct-19	09-Nov-19				╌╍┝╺┝				Re-s
7870	Approval of DDA ABWF design for DOU1, DOU2 and DOU5	0%	115	14 0	10-Nov-19	23-Nov-19		Ц		Ш			ITE	A
OU 1 Foundatio	on works							H	-			15	Dct-	19, F
A1130	General Site Clearance and underground uliities detection/ idenification	0%	0	6 0	09-Jul-19	15-Jul-19			Gen	eral S	ite Cle	rance a	and un	ncerg
A1131	Installation and initial survey of building, ground and utilities settlement	0%	0	6 0	16-Jul-19	22-Jul-19		5			on and			
A1132	Temporary Diversion of existing drainage pipes	0%	0	15 0	16-Jul-19	01-Aug-19	1 - I.	4			orary D			
A1133	Pre-drilling for H-pile foundation (3Nos)	0%	0	10 0	29-Jul-19	08-Aug-19		1	-		drilling			
A1134	Engineer's Review of foundaiton design, rockhead coutour and founding level of H-piles	0%	0	28 0	09-Aug-19	10-Sep-19			Ŧ		🗖 En	gineer's	Revie	ew o
A1137	Mobilzation of piling rigs (1 rig)	0%	0	3 0	21-Aug-19	23-Aug-19				4	Nobilza	tior of	pling	r gs
A1140	Prebored H-pile (P1-7, 7Nos)	0%	0	32 0	24-Aug-19	30-Sep-19				₩			oled H	
A1430	Pile load test	0%	0	6 0	02-Oct-19	08-Oct-19	 	+†			q	📕 Pil	eload	test
A1440	Post Drilling for Prebored H-piles	0%	0	4 0	09-Oct-19	12-Oct-19						_	os t Dri	
RC works					,								╢┼─	
A5470	Open Excavation and for pile cap construction	0%	0	4 0	14-Oct-19	17-Oct-19						ال_ا	Doen E	Ξĸoa
A5480	Pile head preparation and weld test	0%	0	5 0	18-Oct-19	23-Oct-19						4	Pile h	nead
A5490	Formwork and steel fixing of pile cap	0%	0	10 0	24-Oct-19	04-Nov-19		11					Fc	ormw
A5500	Concreting of pile cap	0%	0	2 0	05-Nov-19	06-Nov-19						. P	I C	cnër
A5510	Concreting of MCC room wall and roof slab	0%	76	24 2	07-Nov-19	04-Dec-19							Æ	-
A5520	Internal finishes of MCC room and Builder works	0%	76	18 2	13-Dec-19	06-Jan-20								L
Drainage v	works												 _	
E&M instal		001	0	45 0	40 No. 40	00 Nov 40								
A5535	Underground works for cabling duct and trenches	0%	0	15 0	13-Nov-19	29-Nov-19							H	etti -
A5540 A5550	Installation of the Activated Carbon Filter System and air duct connection for DOU1	0%	0	15 1 5 0	13-Nov-19 30-Nov-19	29-Nov-19 05-Dec-19								Ε.
A000 2	Trial operation and Performance Test of the Activated Carbon Filter System for DOU1	078	0	5 0	30-1100-13	03-Dec-19		₩	<u> </u>	▃╟┙		┉┉	╨┷	Ŀ
Foundatio	on works						 -;	+						- 7 1 2
A5380	General Site Clearance and underground uliities detection/ idenification	0%	0	6 0	09-Jul-19	15-Jul-19		1	Gen		ite Cle			
A5390	Installation and initial survey of building, ground and utilities settlement	0%	0	9 0	16-Jul-19	25-Jul-19		4	📕 🔤 nr		ion an			
A5410	Pre-drilling for H-pile foundation (5Nos, 2 rig)	0%	0	12 0	26-Jul-19	08-Aug-19		1	-	Pre-	drilling			
A5420	Engineer's Review of foundaiton design, rockhead coutour and founding level of H-piles	0%	0	28 0	09-Aug-19	10-Sep-19			-		📕 En	gineer's	Revie	ew o
A5430	Mobilzation of piling rigs	0%	0	3 0	17-Aug-19	21-Aug-19					Nobilza			
A5440	Preliminary pile for shaft friction piles (3Nos)	0%	0	12 0	21-Aug-19	03-Sep-19				뛰님	Prel	minary	cile fo)r sh
A5450	Pile load test for preliminary piles	0%	0	6 0	04-Sep-19	10-Sep-19					🗖 Pil	e lo <mark>a</mark> d t	est for	brel
A5560	Prebored H-pile (2a-P1-2a-P8, 8Nos)	0%	0	35 0	11-Sep-19	22-Oct-19			E		-		Prebo	bled
A5565	Prebored H-pile (2b-P1-2b-P6, 6Nos)	0%	51	30 0	23-Oct-19	26-Nov-19					.	-0		_ ∫F
A5570	Pile load test	0%	0	6 0	23-Oct-19	29-Oct-19		T					Pile) oa
A5580	Post Drilling for Prebored H-piles	0%	0	4 0	30-Oct-19	02-Nov-19						9		
RC works														20
A1450	Open Excavation and for pile cap construction DOU2a	0%	0	4 0	04-Nov-19	07-Nov-19			E			, I Y	p l b	Dpen
A1455	Pile head preparation and weld test	0%	0	3 0	08-Nov-19	11-Nov-19		- -						File
A1460	Formwork and steel fixing of pile cap	0%	0	7 0	12-Nov-19	19-Nov-19							177	Fo
A1470	Concreting of pile cap	0%	0	1 0	20-Nov-19	20-Nov-19						, I 1	🎁	C C
Drainage v														
E&M instal A5355	Illation Underground works for cabling duct and trenches	0%	0	10 0	21-Nov-19	02-Dec-19								Ľ
A5355 A5360	Installation of the Activated Carbon Filter System and air duct connection for DOU2a	0%	0	10 0	21-Nov-19 21-Nov-19	02-Dec-19 02-Dec-19	<u> </u>	++				ç 	ŀ₽₽	E
A5360 A5370	Trial Operation and Performance Test of the Activated Carbon Filter System and air duct connection for DOU2a	0%	0	3 0	03-Dec-19	02-Dec-19 05-Dec-19							1 T	Ę
A5370	That Operation and Ferromatice rest of the Activated Carbon Filter System for DOU2a	0%	U	3 U	00-080-19	00-060-19	,	₽	_	┛		لالمحال	<u>⊨</u>	┥
Foundatio	on works						•	₩	╧╋			┉╋┉┦	30-	Oct
A5650	General Site Clearance and underground uliities detection/ idenification	0%	8	6 0	09-Jul-19	15-Jul-19	-		Gene		ite Cle			
	Installation and initial survey of building, ground and utilities settlement	0%	8	9 0	16-Jul-19	25-Jul-19		4	_ Ins		tion and		- E	
A5660	Pre-drilling for H-pile foundation (4Nos, 1 rig)	0%	8	12 0	26-Jul-19	08-Aug-19		14	-	Pre	drilling			
A5660 A5670		0%	8	28 0	09-Aug-19	10-Sep-19			H-I	₫		gineer's		
	Engineer's Review of foundaiton design, rockhead coutour and founding level of H-piles		8	3 0	17-Aug-19	21-Aug-19			E		Nobilza			
A5670	Engineer's Review of foundaiton design, rockhead coutour and founding level of H-piles Mobilzation of piling rigs	0%			30-Aug-19	02-Oct-19				╝╋┥		Freb	red ⊦	l pil
A5670 A5680		0%	0	28 0			1	11		111		/*** * ****	6 Balt	bore
A5670 A5680 A5690	Mobilzation of piling rigs		0 25	28 0 24 0	03-Oct-19	30-Oct-19	1 D		E .		<u>п</u>			
A5670 A5680 A5690 A5720	Mobilzation of piling rigs Prebored H-pile (5a-P1-2a-P6, 6Nos)	0%			03-Oct-19 03-Oct-19	30-Oct-19 09-Oct-19					ļ		e load	test
A5670 A5680 A5690 A5720 A5730	Mobilzation of piling rigs Prebored H-pile (5a-P1-2a-P6, 6Nos) Prebored H-pile (5b-P1-5b-P6, 6Nos)	0% 0%	25	24 0								📕 Pil	e Ioad ost Dr	ri ling
A5670 A5680 A5690 A5720 A5730 A5740 A5750	Mobilzation of piling rigs Prebored H-pile (5a-P1-2a-P6, 6Nos) Prebored H-pile (5b-P1-5b-P6, 6Nos) Pile load test	0% 0% 0%	25 0	24 0 6 0	03-Oct-19	09-Oct-19 14-Oct-19					I	Pi Pi	e Ioad ost Dr	ri line)7-No
A5670 A5680 A5690 A5720 A5730 A5740 A5750	Mobilzation of piling rigs Prebored H-pile (5a-P1-2a-P6, 6Nos) Prebored H-pile (5b-P1-5b-P6, 6Nos) Pile load test Post Drilling for Prebored H-piles	0% 0% 0%	25 0	24 0 6 0	03-Oct-19	09-Oct-19						Pi Pi	e Ioad ost Dr	ri lino)7-No
A5670 A5680 A5690 A5720 A5730 A5740 A5750 C works A5590	Mobilzation of piling rigs Prebored H-pile (5a-P1-2a-P6, 6Nos) Prebored H-pile (5b-P1-5b-P6, 6Nos) Pile load test Post Drilling for Prebored H-piles for DOU5a	0% 0% 0%	25 0 0	24 0 6 0 4 0	03-Oct-19 10-Oct-19	09-Oct-19 14-Oct-19	Jo Di		2018	/17		Pi Pi	e Ioad ost Dr	ri line)7-No



Critical Remaining Work

Q3			Q4			Q1			2021 Q2			Q3	
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DU5													
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Filter	System	for D	OU2a										
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Sh	eet 2 d		19-Jul-19	ate	Rev.	Revis 0	ion		Checke	d	A	pproved	
		2	29-Aug-19		Rev.								

	Activity Name	Activity % Tot Complete		Original Time risk Duration allowance		Finish			Q3			Q4	Q1	Q2	2020	Q3	
A5600	Pile head preparation and weld test	0%	0	4 0	21-Oct-19	24-Oct-19					1 1	ile head pr	eparation and weld tes	t			
A5610	Formwork and steel fixing of pile cap	0%	0	10 0	25-Oct-19	05-Nov-19					▐▕┡ ╴ ∰	Formwor	k and steel fixing of pil	e cap			
45620	Concreting of pile cap	0%	0	2 0	06-Nov-19	07-Nov-19						Concreti	ng of pile cap				
ainage w																	
&M install A5625		0%	0	18 5	08-Nov-19	28-Nov-19				÷	.		5-Dec-19, E&M install derground works for c		00		÷
A5625 A5630	Underground works for cabling duct and trenches Installation of the Activated Carbon Filter System and air duct connection for DOU5b	0%	0	18 2	08-Nov-19								tallation of the Activate	1 F	1	ucticonnec	ction for DOU5h
A5640	Trial Operation and Performance Test of the Activated Carbon Filter System for DOU5b	0%	0	6 0	29-Nov-19								rial Operation and Per				
PT tank		0,0	Ű	0	201101 10	00 200 10			_				5-Dec-19, CEPT tank				
	effluent drop shaft												5-Dec-19, Air ducts of	effluent drop shaft			
090	Installation of FRP air duct for effluent drop structure	0%	0	25 0	24-Oct-19	21-Nov-19					-	Insta	Ilation of FRP air duct				
'180	Reliability Test of FRP air ducts for effluent Drop Structure	0%	0	12 0	22-Nov-19	05-Dec-19						₽	eliability Test of FRP	tir ducts for effluent D	rop Structur	e	
uent Lau								Ē				- I I I I I I I I I I I I I I I I I I I	5-Dec-19, Effluent Lau	nder			
100	Delivery of isolation device for on site prototype test	0%	15	6 0	09-Jul-19	15-Jul-19			livery	:	II: ; 1		prototype test				
'110	Installation of the Isolation Device for Effluent Drop Structure for On-site Prototype Test	0%	15	10 0	26-Aug-19	05-Sep-19			** [on Device for Effluent [1 T.N			÷
7120	Conduction of On-site Prototype Test of the Isolation Device for Effluent Drop Structure	0%	15	12 0	06-Sep-19	19-Sep-19				-	conductio	- I I I I	e Prototype Test of the	i i	- i - i	i i	
130	Full Scale Installation of Isolation Devices for Effluent Drop Structure	0%	0	38 5	09-Oct-19	21-Nov-19							Scale Installation of Is				
190	Performance test (smoke Test) of the isolation device for effluent drop structure	0%	0	12 0	22-Nov-19	05-Dec-19				_			erformance test (smol 5-Dec-19, CEPT FRP		device for	effluent dr	rop structure
PT FRP c 7140	overs Delivery of FRP Sliding Cover Sealant for On-site Prototype Test	0%	3	6 0	02-Sep-19	07-Sep-19			L	De	livery of		Cover Sealant for On-				
140	Installation of FRP Sliding Cover Sealant for On-site Prototype Test	0%	3	8 0	02-Sep-19 09-Sep-19	17-Sep-19							iding Cover Sealant fo		et		++-
150	Conduction of On-site Prototype Test of FRP Sliding Cover Sealant	0%	3	12 0	18-Sep-19	02-Oct-19					13 3 1		-site Prototype Test of				
160	Full Scale Installation of FRP Sliding Cover Sealants for Existing CEPT Tanks	0%	0	40 5	07-Oct-19	21-Nov-19				- 🗖			Scale Installation of FI			stina CEPT	T Tanks
200	Performance test (Smoke test) of the sealant for FRP sliding covers	0%	0	12 0	22-Nov-19	05-Dec-19							erformance test (Smol				
	he Works	v /0	0	12 0	22 100-13	00 000 19		ĻĮ		-				inter, or the obtaining			
70	Section 2 Completion (665d)	0%	0	0 0		03-May-2					+						++
100	KD A - Completion of all other works including DOUs 1, 2, 4, 5 Polishing stages for FSI (540 days)	0%	0	0 0		29-Dec-20*											
	Submission (AIP)		-						-		14	Oct-19, E&	M Design Submission	(AIP)			
60	Submission of AIP Design of Wet Chemical Scrubber System for DOU1, DOU2 and DOU5	0%	0	14 0	13-Aug-19	26-Aug-19			-	Subm	ission of /	IP Design o	of Wet Chemical Scrub	ber System for DOU1	, DOU2 and	DOU5	
70	Approval of AIP Design of Wet Chemical Scrubber System for DOU1, DOU2 and DOU5	0%	0	21 0	27-Aug-19	16-Sep-19			-	 .	Approval	f AIP Desig	n of Wet Chemical Sci	ubber System for DO	J1, DÓU2 a	and DOU5	
'80	Submission of AIP Design of the Polishing System for DOU4	0%	0	14 0	27-Aug-19	09-Sep-19			-1	Sı	ıbmission	of AIP Desi	gn of the Polishing Sys	tem for DOU4			
90	Approval of AIP Design of the Polishing System for DOU4	0%	0	21 0	10-Sep-19	30-Sep-19				9	Approv	al of AIP De	esign of the Polishing S	ystem for DOU4			
00	Submission of AIP Design of the Polishing System for DOU1R	0%	0	14 0	27-Aug-19	09-Sep-19			-1	ւ Տ	ıbmission	of AIP Desi	gn of the Polishing Sys	tem for DOU1R			
10	Approval of AIP Design of the Polishing System for DOU1R	0%	0	21 0	10-Sep-19	30-Sep-19				H	Appro	al of AIP De	esign of the Polishing	system for DOU1R			
20	Submission of AIP Design of NaOH Bulk Storage and Transfer Facilities	0%	23	14 0	10-Sep-19	23-Sep-19				4	Submiss	on of AIP D	esign of NaOH Bulk S	orage and Transfer F	acilities		
30	Approval of AIP Design of NaOH Bulk Storage and Transfer Facilities	0%	23	21 0	24-Sep-19	14-Oct-19				14	Ap	roval of All	P Design of NaOH Bull	Storage and Transfe	Facilities		
40	Submission of AIP Design of Power Supply and Distribution System for DOU Polishing Systems	0%	19	14 0	13-Aug-19	26-Aug-19			-	Subin	i\$sion of A	IP Design o	of Power Supply and D	stribution System for	DOU Polisł	ning Syster	ms
50	Approval of AIP Design of Power Supply and Distribution System for DOU Polishing Systems	0%	19	21 0	27-Aug-19	16-Sep-19			-				n of Power Supply and				1 I I
60	Submission of AIP Design for Upgrading and replacement of the existing local HMI touchscreen	0%	3	14 0	13-Aug-19	26-Aug-19			-1	i I - I	-ili		or Upgrading and repla	1 1 i i'	·	i i	i i i
70	Approval of AIP Design for Upgrading and replacement of the existing local HMI touchscreen	0%	40	21 0	27-Aug-19	16-Sep-19			►[n for Upgrading and re				
80	Submission of AIP Design of PLC & SCADA Systems for DOU Polishing Systems (including function	0%	3	14 0	27-Aug-19	09-Sep-19			►[1 \$			gn of PLC & SCADAS		- 1	1	17 1 1
90	Approval of AIP Design of PLC & SCADA Systems for DOU Polishing Systems (including functional	0%	3	21 0	10-Sep-19	30-Sep-19				╘┥══┋			esign of PLC & SCADA		-		
00	Submission of AIP Design of Building Services for DOU Polishing Systems, New Switch/MCC Roor	0%	3	14 0	27-Aug-19	09-Sep-19			-				gn of Building Service				
0	Approval of AIP Design of Building Services for DOU Polishing Systems, New Switch/MCC Rooms	0%	17	21 0	10-Sep-19	30-Sep-19					Appro	al of AlP De	esign of Building Servi	es for DOU Polishing	Systems, I	New Switc	h/MCC Rooms
20	Submission of AIP Design of Fire Services for DOU Polishing Systems, New Switch/MCC Rooms a	0%	3	14 0	10-Sep-19	23-Sep-19							esign of Fire Services	• •			
930	Approval of AIP Design of Fire Services for DOU Polishing Systems, New Switch/MCC Rooms and	0%	3	21 0	24-Sep-19	14-Oct-19					- H- 100		Design of Fire Service				- I I I
00	Submission of AIP Design fo power supply, cabling, earthing, lightning protection and interface with	0%	59	14 0	13-Aug-19	26-Aug-19					- i I - i - i - i - i - i - i - i - i -		o power supply, cablin				
010	Approval of AIP Design fo power supply, cabling, earthing, lightning protection and interface with ex'	0%	59	21 0	27-Aug-19	16-Sep-19					11 11		n fo power supply, cab		g protection	and interf	face with ex'tg ins
090	Submission of AIP design of networks integration with existing DCS	0%	59	14 0	13-Aug-19	26-Aug-19							f networks integration				
00	Approval of AIP Design of network integration with existing DCS	0%	59	21 0	27-Aug-19	16-Sep-19			· <mark></mark>		- h h a a a a i all		n of network integratio				
10	Submission of AIP design of Redundant fiber network for new SCADA	0%	59	14 0	13-Aug-19	26-Aug-19			-		- 1 - 1 - 1 - 1		f Redundant fiber netw	1 1 I I			
120	Approval of AIP design of Redundant fiber networks for new SCADA	0%	59	21 0	27-Aug-19	16-Sep-19							n of Redundant fiber no				
150	Submission of AIP design for upgrading works and modification of ex'tg data, event & Historain serv	0%	59	14 0	13-Aug-19	26-Aug-19		[-				or upgrading works an				
80	Approval of AIP design for upgrading works and modification of ex'tg data, event & Historain server	0%	59	21 0	27-Aug-19	16-Sep-19			-1		Approval		n for upgrading works		tg data, eve	ent & Histor	rain server in DØ
	Submission (DDA) Submission of DDADesign of Wet Chemical Scrubbers Filters for DOU1, DOU2 and DOU5	0%	0	14 0	17-Sep-19	30-Sep-19					Submi		09-Dec-19, E&M Desig A Design of Wet Chem		for DOUL		
70 80	Review and Comment on DDA Design of Wet Chemical Schubbers Filters for DOU1, DOU2 and DOU3 Review and Comment on DDA Design of Wet Chemical Scrubbers Filters for DOU1, DOU2 and DO	0%	0	21 0	01-Oct-19								Comment on DDA Des				
83	Re-submission of DDA Design of Wet Chemical Scrubbers Filters for DOU1, DOU2 and DOU5	0%	0	7 0	22-Oct-19	21-Oct-19 28-Oct-19							sion of DDA Design of				1 1 1 1
85	Approval of DDA Design of Wet Chemical Scrubbers Filters for DOU1, DOU2 and DOU5	0%	0	14 0	22-Oct-19 29-Oct-19	11-Nov-19						- i	al of DDA Design of W	1 1 i i	i i	- i - i	i i i
90	Submission of DDA Design of the Polishing System for DOU4	0%	21	14 0	01-Oct-19	14-Oct-19							DDA Design of the Po			5001, 50	
200	Review and Comment on DDA Design of the Polishing System for DOU4	0%	21	21 0	15-Oct-19	04-Nov-19			• • • • • • • •	÷			Ind Comment on DDAI			r DOI 14	++
10	Re-submission of DDA Design of the Polishing System for DOU4	0%	21	7 0	05-Nov-19								mission of DDA Desig				
60	Approval of DDA Design of the Polishing System for DOU4	0%	21	14 0	12-Nov-19								proval of DDA Design c				
940	Submission of DDA Design of the Polishing System for DOU1R	0%	0	14 0	01-Oct-19	14-Oct-19							DDA Design of the Po				
950	Review and Comment on DDA Design of the Polishing System for DOU1R	0%	0	21 0	15-Oct-19	04-Nov-19							Ind Comment on DDAI			r DOU1R	
960	Re-submission of DDA Design of the Polishing System for DOU1R	0%	0	7 0	05-Nov-19				••••	<u>†</u> † -			mission of DDADesig	h] h			+
970	Approval of DDA Design of the Polishing System for DOU1R	0%	0	14 0	12-Nov-19					1	1		roval of DDA Design c				
980	Submission of DDA Design of the NaOH bulk storage and transfer Facilities	0%	23	14 0	15-Oct-19	28-Oct-19							n of DDA Design of the				
990	Review and Comment on DDA Design of the NaOH bulk storage and transfer Facilities	0%	23	21 0	29-Oct-19	18-Nov-19							w and Comment on D				ansfer Facilities
000	Re-submission of DDA Design of the NaOH bulk storage and transfer Facilities	0%	23	7 0	19-Nov-19	25-Nov-19				i	 		submission of DDA De				
010	Approval of DDA Design of the NaOH bulk storage and transfer Facilities	0%	23	14 0	26-Nov-19			†F		:† -	1		Approval of DDA Desig				
)20	Submission of DDA Design of Power Supply and Distribution System for DOU Polishing Systems	0%	19	14 0	17-Sep-19	30-Sep-19				-	Submi		A Design of Power Su		-		
)30	Review and Comment on DDA Design of Power Supply and Distribution System for DOU Polishing	0%	19	21 0	01-Oct-19	21-Oct-19						• P	Comment on DDA Des	10 C N 1 1 1	· · · ·		1 2 2 1 1
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Critical Remaining Work

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Aug-19			Rev.									

vity ID	Activity Name	Activity % Total Complete	⊦loat	Original Time risk Duration allowance	Start	Finish	201	9	Q3			Q4		Q1	21 Q2	Q3	
A6040	Re-submission of DDA Design of Power Supply and Distribution System for DOU Polishing System	0%	19	7 0	22-Oct-19	28-Oct-19		Π			-		omission			ion System for DOU Polishir	ıg Şys
A6050	Approval of DDA Design of Power Supply and Distribution System for DOU Polishing Systems	0%	19	14 0	29-Oct-19	11-Nov-19					-		2			System for DOU Polishing	Syster
A6060	Submission of DDA Design of Upgrading and replacement of the existing local HMI touchscreen	0%	40	14 0	17-Sep-19	30-Sep-19				-	- 1		p			ting local HMI touchscreen	
A6070	Review and Comment on DDA Design of Upgrading and replacement of the existing local HMI touch	0%	40	21 0	01-Oct-19	21-Oct-19							6 ;			ement of the existing local H	
A6080	Re-submission of DDA Design of Upgrading and Upgrading and replacement of the existing local HI	0%	40	7 0	22-Oct-19	28-Oct-19							R !			hd replacement of the existin	-
A6090	Approval of DDA Design of Upgrading and Upgrading and replacement of the existing local HMI tour	0%	40 3	14 0	29-Oct-19	11-Nov-19							fi i		Ing and Upgrading and DA Systems for DOU I	replacement of the existing l	cal H
A6100 A6110	Submission of DDA Design of PLC & SCADA Systems for DOU Polishing Systems Review and Comment on DDA Design of PLC & SCADA Systems for DOU Polishing Systems	0%	45	14 0 21 0	01-Oct-19 15-Oct-19	14-Oct-19 04-Nov-19			<mark> </mark>				6			tems for DOU Polishing Systems	tome
A6120	Re-submission of DDA Design of PLC & SCADA Systems for DOU Polishing Systems	0%	45	7 0	05-Nov-19	11-Nov-19					5		ji i		K i i f	for DOU Polishing Systems	i .
A6130	Approval of DDA Design of PLC & SCADA Systems for DOU Polishing Systems	0%	45	14 0	12-Nov-19	25-Nov-19							6 6			DOU Polishing Systems	
A6140	Submission of DDA Design of Building Services for DOU Polishing Systems, New MCC Rooms and	0%	3	14 0	15-Oct-19	28-Oct-19					L-	Supm	ission of	DDA Design of Building	Services for DOU Pol	shing Systems, New MCC R	ooms
A6150	Review and Comment on DDA Design of Building Services for DOU Polishing Systems, New MCC	0%	3	21 0	29-Oct-19	18-Nov-19					- -					es for DOU Polishing System	
A6160	Re-submission of DDA Design of Building Services for DOU Polishing Systems, New MCC Rooms	0%	3	7 0	19-Nov-19	25-Nov-19						L.	Re-sub	mission of DDA Design	of Building Services for	DOU Polishing Systems, N	ew MC
A6170	Approval of DDA Design of Building Services for DOU Polishing Systems, New MCC Rooms and N	0%	3	14 0	26-Nov-19	09-Dec-19						►(OU Polishing Systems, New	
A8050	Submission of DDA Design of power supply, cabling, earthing, lightning protection and interface with	0%	59	14 0	17-Sep-19	30-Sep-19					-		1: 1:			ng protection and interface v	
A8060	Review & comment of DDA Design of power supply, cabling, earthing, lightning protection and interf	0%	59	21 0	01-Oct-19	21-Oct-19					╡┻┛╸╵		ji i	i i i i	A 1977 1 7 1	rthing, lightning protection at	
A8070 A8080	Re-submission of DDA Design of power supply, cabling, earthing, lightning protection and interface Approval of DDA Design of power supply, cabling, earthing, lightning protection and interface with e	0%	59 59	7 0 14 0	22-Oct-19 29-Oct-19	28-Oct-19 11-Nov-19							6			, lightning protection and int	
A8280	Submission of DDA Design of networks integration with the existing DCS	0%	59	14 0	17-Sep-19	30-Sep-19					1	- L I - 1	(I	1 7 10 1	ation with the existing		-
A8290	Review & comment of DDA Design of networks integration with the existing DCS	0%	59	21 0	01-Oct-19	21-Oct-19					-		E :		tworks integration with		
A8300	Re-submission of DDA Design of networks integration with the existing DCS	0%	59	7 0	22-Oct-19	28-Oct-19					- -	Re-su	pmissior	n of DDA Design of netv	orks integration with th	e existing DCS	
A8310	Approval of DDA Design of networks integration with the existing DCS	0%	59	14 0	29-Oct-19	11-Nov-19						📕 Ap	proval o	DDA Design of networ	ks integration with the e	xisting DCS	
A8320	Submission of DDA Design of redundant fiber networks for new SCADA	0%	59	14 0	17-Sep-19	30-Sep-19				-	-		j. i	с , , , , , , , , , , , , , , , , , , ,	networks for new SCA		
A8330	Review & comment of DDA Design of redundant fiber networks for new SCADA	0%	59	21 0	01-Oct-19	21-Oct-19							6 6		dundant fiber networks		
A8340	Re-submission of DDA Design of redundant fiber networks for new SCADA	0%	59	7 0	22-Oct-19	28-Oct-19							P 1		ndant fiber networks fo ant fiber networks for n		
A8350 A8360	Approval of DDA Design of redundant fiber networks for new SCADA	0%	59 59	14 0	29-Oct-19	11-Nov-19						- L	i i			ew SCADA x'to data, event & Historain s	orvori
A8360 A8370	Submission of DDA Design of upgrading works and modification of ex'tg data, event & Historain ser Review & comment of DDA Design of upgrading works and modification of ex'tg data, event & Histor	0%	59 59	14 0 21 0	17-Sep-19 01-Oct-19	30-Sep-19 21-Oct-19							P !	0 10 10		lification of ex'tg data, event	!
A8380	Re-submission of DDA Design of upgrading works and modification of ex'tg data, event & Historain	0%	59	7 0	22-Oct-19	28-Oct-19							P 2	· · · · · · · · · · · · · · · · · · ·		cation of exitg data, event & I	
A8390	Approval of DDA Design of upgrading works and modification of ex'tg data, event & Historain server	0%	59	14 0	29-Oct-19	11-Nov-19						🗖 Ap	proval o	DDA Design of upgrad	ing works and modifica	tion of ex'tg data, event & His	torain
Civil and G	eotechnical Design Submission (DDA)												E :		Geotechnical Design		
A7880	Submission of DDA Geotechnical design for piling works for DOU1R and 4	0%	0	7 0	01-Oct-19	07-Oct-19	[.			4	📕 Subi		h .	, i, Y	r piling works far DOU		
A7890	Review and Comment on DDA Geotechnical design for piling works for DOU1R and 4	0%	0	21 0	08-Oct-19	28-Oct-19							10 i			works for DOUTR and 4	
A7900 A7910	Re-submission of DDA Geotechnical design for piling works for DOU1R and 4	0%	0	7 0	29-Oct-19 05-Nov-19	04-Nov-19 11-Nov-19									d design for piling work		
A7910 A7920	Approval of DDA Geotechnical design for piling works for DOU1R and 4 Submission of DDA structural design for RC works of DOU1R and 4	0%	39	14 0	12-Nov-19	25-Nov-19						⊐ ^⊦ ►□	6 i	i i i	design for RC works of		
A7930	Review and Comment on DDA structural design for RC works for DOU1R and 4	0%	39	21 0	26-Nov-19	16-Dec-19						-	E :	1 12 1		or RC works for, DOU1R an	d 4
A7940	Re-submission of DDA structural design for RC works for DOU1R and 4	0%	39	10 0	17-Dec-19	26-Dec-19	1							Re-submission of DDA	structural design for R	C works for DOU1R and 4	
A7950	Approval of DDA structural design for RC works for DOU1R and 4	0%	39	10 0	27-Dec-19	05-Jan-20								Դեսցմանակություն է է է		orks for DOU1R and 4	
A7960	Submission of DDA for ABWF design for DOU1R and 4	0%	184	14 0	12-Nov-19	25-Nov-19						-1	li i		design for DOU1R and	i i i	
A7970	Review and Comment on DDA ABWF design for DOU1R and 4	0%	184	21 0	26-Nov-19	16-Dec-19						-	Ľ — Ľ		DDA ABWF design for ABWF design for DO		
A7980 A7990	Re-submission of DDA ABWF design for DOU1R and 4 Approval of DDAABWF design for DOU1R and 4	0%	184 184	10 0 10 0	17-Dec-19 27-Dec-19	26-Dec-19			· · · · ·		÷				WF design for DOU1R		
Procuemen	t and Delivery of Equipment/ Material for Section 2 of Works	078	104	10 0	21-060-13	05-0411-20										ent and Delivery of Equipme	ent/¦Ma
A1320	Procurement of Wet Chemical Scrubber Systems for DOU1, DOU2 and DOU5	0%	0	90 0	12-Nov-19	09-Feb-20						-				ubber Systems for DOU1, DO	
A1330	FAT of Wet Chemical Scrubber Systems for DOU1, DOU2 and DOU5	0%	0	14 0	10-Feb-20	23-Feb-20										Systems for DOU1, DOU2	
A1350	Delivery of Wet Chemical Scrubber Systems for DOU1, DOU2 and DOU5	0%	0	14 0	24-Feb-20	08-Mar-20	ļļ								•	crubber Systems for DOU1,	DQU
A1360	Procurement of DOU4 Polishing System	0%	21	76 0	26-Nov-19	09-Feb-20	-					-			nt of DOU4 Polishing S DOU4 Polishing Syster		
A1380 A1500	FAT of DOU4 Polishing System Delivery of DOU4 Polishing System	0%	21 21	14 0 14 0	10-Feb-20 24-Feb-20	23-Feb-20 08-Mar-20	-								very of DOU4 Polishing	i i i i	
A6180	Procurement of DOU1R Polishing System	0%	0	76 0	26-Nov-19	09-Feb-20						-		and the second	nt of DOU1R Palishing		
A6190	FAT of DOU1R Polishing System	0%	0	14 0	10-Feb-20	23-Feb-20									DOU1R Polishing Syste		
A6200	Delivery of DOU1R Polishing System	0%	0	14 0	24-Feb-20	08-Mar-20	1							Del	very of DOU1R Polishi	hg System	
A6210	Procurement of NaOH Bulk Storage Tank and Transfer Facilities	0%	23	76 0	10-Dec-19	23-Feb-20							-	Produre	ment of NaOH Bulk St	rage Tank and Transfer Faci	litiės
A6220	FAT of NaOH Bulk Storage Tank and Transfer Facilities	0%	23	14 0	24-Feb-20	08-Mar-20										Tank and Transfer Facilities	
A6230	Delivery of NaOH Bulk Storage Tank and Transfer Facilities	0%	23	14 0	09-Mar-20	22-Mar-20									Ang tanàn ang taona kaominina dia kaominina dia kaominina dia kaominina dia kaominina dia kaominina dia kaomini	Storage Tank and Transfer F	- i -
A6240	Procurement of Power Supply and Distribution System for DOU Polishing Systems	0%	19 19	90 0	12-Nov-19	09-Feb-20 10-Mar-20										Distribution System for DOL	
A6250 A6260	FAT of Power Supply and Distribution System for DOU Polishing Systems Delivery of Power Supply and Distribution System for DOU Polishing Systems	0%	19	30 0 14 0	10-Feb-20 11-Mar-20	24-Mar-20								i ;i <mark> </mark> :;		ly and Distribution System f	
A6270	Procurement of packaged offer for Upgrading and Replacement of the existing local HMI touchscree	0%	40	120 0	12-Nov-19	10-Mar-20						-				offer for Upgrading and Repla	
A6290	Delivery of packaged offer for Upgrading and Replacement of the existing local HMI touchscreen	0%	40	14 0	11-Mar-20	24-Mar-20										ffer for Upgrading and Repla	
A6300	Procurement of PLC and SCADA Systems for DOU Polishing Systems	0%	45	90 0	26-Nov-19	23-Feb-20	1					┡╾╢		Procure	ment of PLC and SCAI	A Systems for DOU Polishin	g Sys
A6310	FAT of PLC and SCADA Systems for DOU Polishing Systems	0%	45	30 0	24-Feb-20	24-Mar-20									2.4	Systems for DOU Polishing	
A6320	Delivery of hardware of PLC and SCADA Systems for DOU Polishing Systems	0%	45	14 0	25-Mar-20	07-Apr-20								- 1 - 1 - 1 - 1 - 1	HP 1 1 1	e of PLC and SCADA System	
A6330	Procurement of Building Services Equipment for DOU Polishing Systems, New Switch/MCC Rooms	0%	3	90 0	10-Dec-19	08-Mar-20										rvices Equipment for DOU P	
A6340	Delivery of Building Services Equipment for DOU Polishing Systems, New Switch/MCC Rooms and Procurement of Fire Services Equipment for DOU Polishing Systems, New MCC Rooms and NaOH	0%	3	30 0	09-Mar-20	07-Apr-20								- i ti k li		Services Equipment for DO	
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D	Activity Name	Activity % To Complete	otal Float	Original Duration	Time risk allowance	Start	Finish	2019	, Q:	3		Q4		21			Q2	2020	Q3		
A7610	Reliability test of the polishing system of DOU2	0%	9	30	0	20-Nov-20	19-Dec-20				t T										╈
7620	Reliability test of NaOH bulk Storage and transfer system	0%	9	30		21-Oct-20	19-Nov-20														
7630	Performance test of building service for DOU polishing system, MCC room and NaOH bulk storage	0%	1	45	5	13-Nov-20	27-Dec-20														
47640	Performance test of fire service for DOU polishing system, MCC room and NaOH bulk storage com	0%	36	45	5	09-Oct-20	22-Nov-20														-
U 4 oundation	works												23-	Jan 20), Fou	ndation	works				
6558	General Site Clearance and underground uliities detection/ idenification	0%	36	6	0	27-Jul-19	02-Aug-19					e and undergr									
6560	Installation and initial survey of building, ground and utilities settlement	0%	36	6	0	03-Aug-19	09-Aug-19		L ij oj	Installation	and initia	survey of bu	ilding, grour	nd and	utilitie	s settle	ment				
575	Pre-drilling for H-pile foundation (5Nos, 2rigs)	0%	36	12	1	10-Aug-19	23-Aug-19		Ļ ⊷ [Pre-dri		pile foundatio									
6576	Engineer's Review of foundaiton design, rockhead coutour and founding level of H-piles	0%	36	28	0	24-Aug-19	25-Sep-19		L	-		's Review of f		esigh,	rockh	ead cou	tour and fo	ounding le	vel of H-	pilės	
6578	Mobilzation of piling rigs	0%	36	3		26-Sep-19	28-Sep-19			L=[Mobilza	tion of piling r									
6580	Prebored H-pile (P1-7, 7Nos)	0%	0	40		12-Nov-19	30-Dec-19						Prebored	18		, 7Nos)					
6590	Pile load test	0%	0	6		13-Jan-20	18-Jan-20							loadite	11						
.6600 C works	Post Drilling for Prebored H-piles	0%	0	4	0	20-Jan-20	23-Jan-20							st Drill	ing for	Prebore	ed H-piles	Лау-20, RC	C works		
6635	Open Excavation and for pile cap construction	0%	0	12	2	24-Jan-20	06-Feb-20							Open	Exca	ation ar	nd for pile o				
6637	Pile head preparation and weld test	0%	0	9	2	07-Feb-20	17-Feb-20							, Rile	e head	prepar	ation and w	veld test			
6639	Formwork and steel fixing of pile cap	0%	0	18	3	18-Feb-20	12-Mar-20						4				and steel f		le cap		
6640	Concreting of pile cap	0%	0	2	0	13-Mar-20	14-Mar-20							-			g of pile ca				
6650	Concreting of MCC room wall and roof slab	0%	61	24		16-Mar-20	15-Apr-20						ļ	L	-		oncreting c				
6660	Internal finishes of MCC room and Builder works	0%	61	18	3	24-Apr-20	15-May-20									_	Inter	nal finishe	es of MC	C room a	
i dergrour 6630	nd Drainage and cabling works Construction and installation of Cable into existing/ new underground cable trench/ ducts	0%	61	90	2	16-May-20	01-Sep-20														onstru
3160	Statutory submission and approval from WSD	0%	36	210		02-Oct-19*	15-Jun-20					<u> </u>	: i	į.				Statut	ory subm		
3170	Construction of underground watermain for DOU2	0%	36	90		16-Jun-20	02-Oct-20										G	►		1	i
	ation														•						
6700	Installation of the DOU4 polishing Unit and air duct connection for DOU4	0%	0	162		30-Mar-20	14-Oct-20														
7400	Installation of Power supply and disturbution system for DOU polishing systems	0%	20	130		25-Mar-20	31-Aug-20										· · ·		Jack	allation c	stalla
7420	Installation of PLC and SCADA system for DOU polishing systems	0%	49		14	10-Apr-20	27-Jul-20										<u> </u>			anation c	51 -
7430 7440	Installation of Building Service for DOU polishing system, MCC room Installation of Fire services for DOU polishing system, MCC room and NaOH bulk storage compou	0%	31	180 150		10-Apr-20 10-Apr-20	12-Nov-20 08-Oct-20				÷		+				;				
3420	Software development for new DOU polishing stage	0%	44	120		10-Apr-20	08-001-20 01-Sep-20									-	<u> </u>	<u> </u>			oftwar
8430	Installation of redundunt fiber networks for new SCADA	0%	44	30		02-Sep-20	08-Oct-20													F	-
	comissioning					1															-
6710	Performance Test of the DOU4 polishing Unit	0%	0	45	5	15-Oct-20	28-Nov-20						l				L				
7650	Hardware, point/end to point/end, interlock, simulation and interface test for PLC and SCADA for DC	0%	24	65	5	01-Sep-20	04-Nov-20													4	#
7670	Reliability test of the polishing system of DOU4	0%	0	30		29-Nov-20	28-Dec-20														
7680	Reliability test of NaOH bulk Storage and transfer system	0%	9	30		21-Oct-20	19-Nov-20														
7690 7700	Performance test of building service for DOU polishing system, MCC room and NaOH bulk storage Performance test of fire service for DOU polishing system, MCC room and NaOH bulk storage corr	0% 0%	1 36	45 45		13-Nov-20 09-Oct-20	27-Dec-20 22-Nov-20														
U 5	renormance test of the service for 200 polishing system, who room and radin bark storage con	078	50	43	3	00-001-20	22-1100-20														
oundation C works fo															10	Mar-20	RC works		5h		
7005	Open Excavation and for pile cap construction	0%	25	6	1	12-Nov-19	18-Nov-19				j L	Den Ex	cavation an	d for p							
7010	Pile head preparation and weld test	0%	25	9	1	19-Nov-19	28-Nov-19					File h	ead prepara	tionar	nd wel	d test					
7015	Formwork and steel fixing of pile cap	0%	25	18	3	29-Nov-19	19-Dec-19					، لے۔	Formwork a	nd stee	el fixir	g of pile	cap				
7018	Concreting of pile cap	0%	25	2	0	20-Dec-19	21-Dec-19					5	Concreting	of pile	cap						
7020	Concreting of MCC room wall and roof slab	0%	25	30	3	23-Dec-19	29-Jan-20						C C	onclet	ing of	MCC ro	om wall ar	nd roof sla	ab		
7025	Internal finishes of MCC room and Builder works	0%	25	18	3	15-Feb-20	10-Mar-20						╘		Inte	rnal fini	ishes of M	CC room a	and Build	er works	s
dergrour i990	nd Drainage and cabling works Construction and installation of Cable into existing/ new underground cable trench/ ducts	0%	144	90	4	11-Mar-20	29-Jun-20								-		÷	Cc	onstructio	on and in	nsta
3190	Statutory submission and approval from WSD	0%	36	210		02-Oct-19*	15-Jun-20											4	ory subm		
3200	Construction of underground watermain for DOU2	0%	36	90	14		02-Oct-20										Ę	-			
M install	ation														-						-
7060	Installation of the DOU5 polishing system and air duct connection for DOU1	0%	6	175		09-Mar-20	08-Oct-20						ļ	پ ا 							
7345	Installation of Power supply and disturbution system for DOU polishing systems	0%	13	130		25-Mar-20	31-Aug-20													``	stalla
7365	Installation of PLC and SCADA system for DOU polishing systems	0%	42	90		10-Apr-20	27-Jul-20											<u> </u>	Insta	allation c	of P
7375	Installation of Building Service for DOU polishing system, MCC room	0%	1	180		10-Apr-20	12-Nov-20														
7385 8440	Installation of Fire services for DOU polishing system, MCC room and NaOH bulk storage compou Software developement for new DOU polishing stage	0% 0%	31 36	150 120		10-Apr-20 10-Apr-20	08-Oct-20 01-Sep-20														oftwe
3450	Installation of redundunt fiber networks for new SCADA	0%	36	30		02-Sep-20	08-Oct-20				++		+								
	commissioning	570		23																 	-
7387	Performance Test of the DOU5 polishing system	0%	6	30	5	09-Oct-20	12-Nov-20														
7710	Hardware, point/end to point/end, interlock, simulation and interface test for PLC and SCADA for DC	0%	15	65		01-Sep-20	04-Nov-20													4	#
7730	Reliability test of the polishing system of DOU5	0%	0	39		20-Nov-20	28-Dec-20				ļļ.						Ļ				
7740	Reliability test of NaOH bulk Storage and transfer system	0%	0	30		21-Oct-20	19-Nov-20														
7750	Performance test of building service for DOU polishing system, MCC room and NaOH bulk storage	0%	1 36	45		13-Nov-20	27-Dec-20														
7760 H bulk s	Performance test of fire service for DOU polishing system, MCC room and NaOH bulk storage com torage compound	0%	30	45	J	09-Oct-20	22-1907-20			-											_
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7230	Demolition of existing Storage compound	0%	0	50		27-Aug-19	24-Oct-19					emolition of e									
7240	Excavation of NaOH bulk storage compound	0%	0	12			07-Nov-19				-	Excavation				11 T 1					
7250 7260	Carryout plate load test for foundation	0%	0	24		08-Nov-19	05-Dec-19					Carr	yout plate lo			11 1	1 I I I I I I I I I I I I I I I I I I I	looprose	tative		
(ZDU)	Review design by Project Manager Respresentative	0%	0	28	U	06-Dec-19	10-Jan-20	i :		1			Review	w ueși	ун ру	UJECT	Manager R	reshidseu	ıauve		- p1
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Critical Remaining Work

First Programme

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ivity ID	Activity Name	Activity %				< Start	Finish	201	9				2020	2021				
		Complete		Duration	allowance				Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
A7270	RC works for NaOH bulk storage compound	0%	0	45	5 5	11-Jan-20	06-Mar-20				RC	works for NaOH bulk						
E&M insta	allation													95-Sep-20, E&M insta	allation			
A7280	Installation NaOH storage tanks and associated transfer pump	0%	0	120	20	15-Apr-20	05-Sep-20							nstallation NaOH s	orage tanks and associated trans	fer pump		
Testing an	nd Commissioning													 9	9-Nov-20, Testing and Commissi	oning		
A7390	Performance test of the NaOH bulk storage compound and transfer system	0%	0	75	5 15	06-Sep-20	19-Nov-20							P(erformance test of the NaOH bul	< storage compound and	d transfer syster	
Statutary I	nspection by FSD														V	💙 03-May-21, Sta	tutary Inspectio	
A7770	Submission of Application for FS inspection ot FSD	0%	0	21	1 0	29-Dec-20	18-Jan-21								Submission of App	lication for FS inspectio	n ot FSD	
A7780	FS inspection by FSD	0%	0	14	1 2	19-Jan-21	01-Feb-21								FS inspection I	by FSD		
A7790	System/ Defect rectification	0%	0	4() 5	02-Feb-21	13-Mar-21								Syst	em/ Defect rectification		
A7800	Submission of application for FS reinspection to FSD	0%	0	21	0	14-Mar-21	03-Apr-21									Submission of applicat	ion for FS reinsr	
A7810	FS re-inspection by FSD	0%	0	14	1 2	04-Apr-21	17-Apr-21									FS re-inspection by	FSD	
A7820	Issue FS certificates	0%	0	15	5 2	18-Apr-21	02-May-21									Issue FS certific	cates	
A7830	Works completion for Handover	0%	0	1	1 0	03-May-21	03-May-21									Works complet	ion for Handove	
Handover	of E&M equipment					,									V	🛛 🗸 03-May-21, Hai	ndover of E&M e	
A8210	Submission of O&M manual, Training manual and spare part list	0%	0	30)	30-Dec-20*	28-Jan-21								Submission of C	80 manual, Training m	anual and spare	
A8220	Submission of final version of training manual	0%	0	30)	29-Jan-21	27-Feb-21								Submiss	ion of final version of tr	aining manual	
A8230	O&M training to DSD/ST2	0%	0	14	1	28-Feb-21	13-Mar-21									tra ning to D\$D/ST2		
A8240	Handover spare parts	0%	0	30)	14-Mar-21	12-Apr-21									Handover spare part	s	
A8250	Handover of Final version of O&M manual	0%	0	21	1	13-Apr-21	03-May-21	1							_	Handover of Fir	nal version of O	

Actual Work	 Milestone 	Contract No. DC/2018/17	Sheet 7 of 7
Remaining Work	Summary	Enhancement of Deodourization System at Stonecutter Island Sewage Treatment Works	29-
Critical Remaining W	ork	· · ·	
		First Programme	

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Date	Revision	Checked	Approved
9-Jul-19	Rev. 0		
29-Aug-19	Rev. 1		